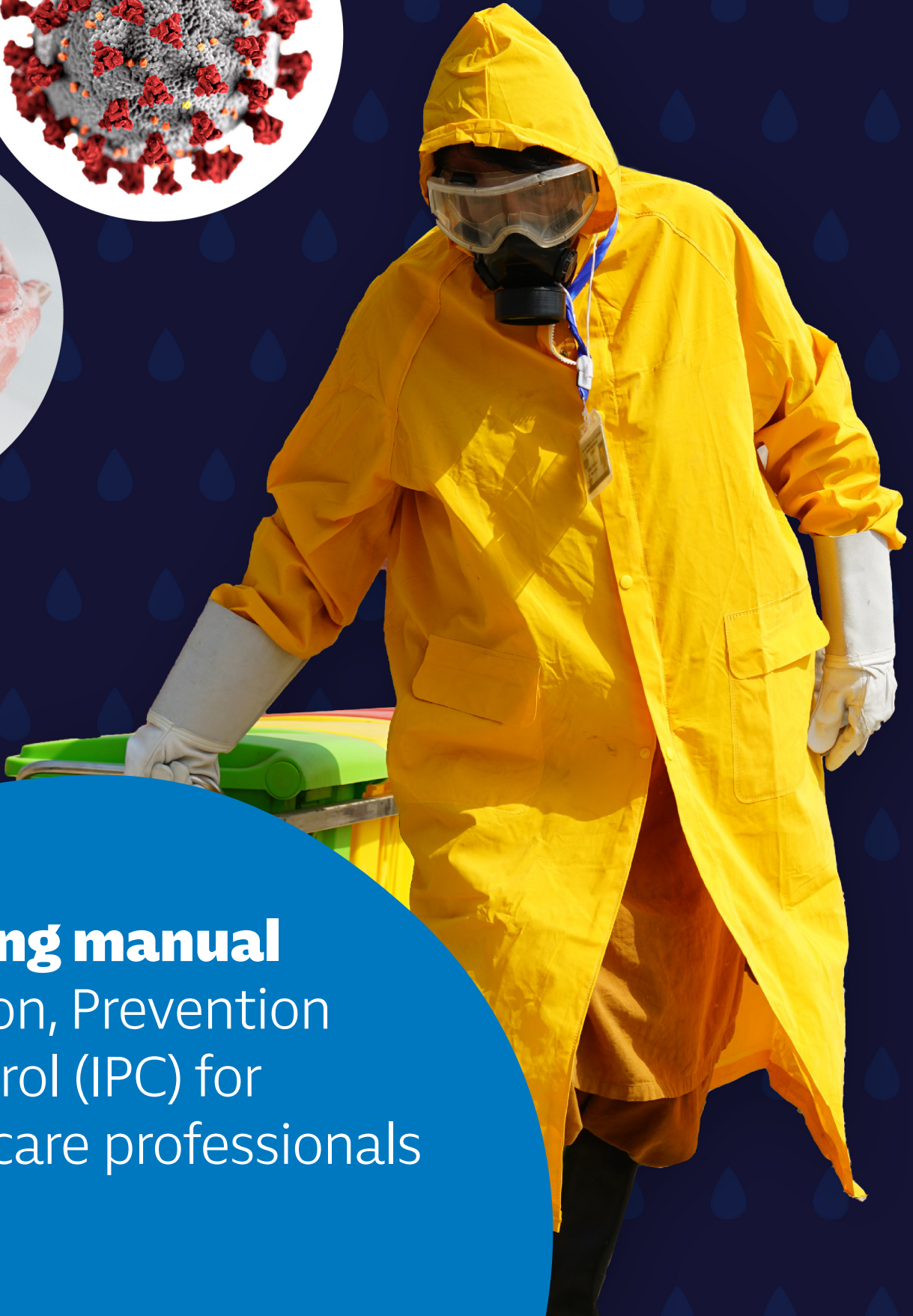
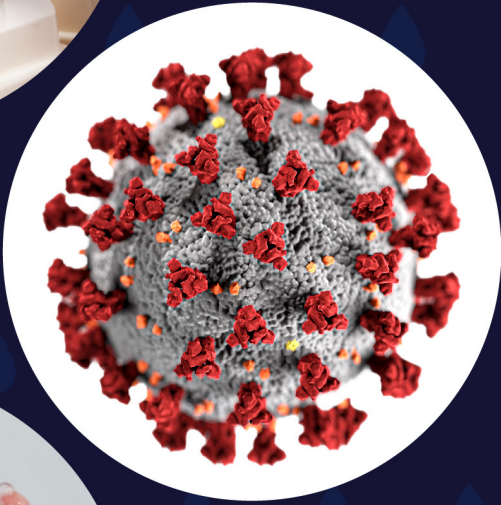




Training manual

Infection, Prevention
& Control (IPC) for
healthcare professionals
& staff

About the Cover Photo: Abdul Ghafoor, 50-year-old cleaner managing the medical waste at Rural Health Center 53/M, District Lodhran, Punjab Province, Pakistan. March 2024

WaterAid / Yasir Bajwa

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Abbreviations

- **ARI:** Acute Respiratory Infection
- **BBPs:** Bloodborne Pathogens
- **BHU:** Basic Health Unit
- **CDK:** Clean Delivery Kits
- **CMW:** Community Midwife
- **EPI:** Expanded Program on Immunisation
- **FEFO:** First Expired First Out
- **HAIs:** Healthcare-Associated Infections
- **HCPs:** Healthcare Providers
- **HH:** Hand Hygiene
- **HIV:** Human Immunodeficiency Virus
- **IGNIT3:** Increase Gains in Nutrition by Integration, Education, Evaluation, Empowerment
- **IPC:** Infection prevention and control
- **LHV:** Lady Health Visitor
- **LHW:** Lady Health Worker
- **MTs:** Master Trainers
- **NIH:** National Institutes of Health
- **PHTs:** Public Health Technicians
- **PPE:** Personal Protection Equipment
- **Q&A:** Question and Answers
- **SWs:** Sanitary Workers
- **SSIs:** Surgical Site Infections
- **TOTs:** Training of Trainers
- **TLA:** Trainer-led Activities
- **TNAs:** Training Needs Assessment
- **UV:** Ultraviolet
- **VTM:** Vaccine Temperature Monitor
- **VVM:** Vaccine Vial Monitor
- **WAP:** WaterAid Pakistan
- **WHO:** World Health Organization

Introduction

Infection Prevention and Control (IPC) is a cornerstone of effective healthcare delivery, crucial for safeguarding patients, healthcare providers, and the broader community from the transmission of infectious diseases. In the context of Pakistan, where healthcare-associated infections (HAIs) pose a significant threat due to resource constraints, inadequate infrastructure, and limited awareness, the importance of robust IPC measures cannot be overstated. The prevalence of HAIs can reach alarming levels, particularly in vulnerable populations such as pregnant women, newborns, people with chronic illness, and those with immunocompromised conditions, leading to severe health complications and increased mortality rates. The Increase Gains in Nutrition by Integration, Education, Evaluation, Empowerment (IGNITE) project, led by WaterAid Pakistan in District Swabi, addresses the pressing issue of healthcare-associated infections (HAIs) through the development of comprehensive Infection Prevention and Control (IPC) protocols and targeted training programs. This manual serves as a vital resource for healthcare providers, offering a detailed analysis of current IPC practices, identifying gaps, and outlining opportunities for improvement. By focusing on the specific infectious disease risks faced in various healthcare settings, this training manual, with tailored modules, aims to equip healthcare professionals with the knowledge and skills necessary to implement effective IPC strategies.

The development of this IPC manual was informed by the Training Needs Assessment (TNA) conducted in the Swabi district across five selected basic health facilities. The TNA evaluated the knowledge and skills of healthcare providers, including doctors, Lady Health Visitors (LHVs), midwives, health/EPI technicians, and sanitary workers. Alarming, the assessment revealed that only 41% of respondents demonstrated a clear understanding of basic IPC measures, while 78% reported having never received formal training. Despite these gaps, 98% of participants expressed a strong consensus on the importance of IPC training to enhance patient safety and care quality. This manual directly addresses these needs by equipping healthcare providers with essential knowledge and tools to strengthen IPC practices.

This manual is designed to provide a detailed analysis of current IPC practices, identify gaps, and outline actionable strategies for improvement. It is tailored to the unique challenges faced in healthcare settings across Pakistan, providing step-by-step guidance on best practices for infection prevention. By focusing on specific risks and scenarios encountered by healthcare professionals, this manual ensures relevance and practicality, fostering the effective implementation of IPC protocols at various levels of the healthcare system.

The content of the manual emphasises a holistic approach to IPC, integrating education with the provision of essential materials such as personal protective equipment (PPE), hand hygiene supplies, and waste management tools. This ensures that theoretical training is complemented by practical application, enabling healthcare providers to address challenges effectively. Special attention has been paid to primary-level facilities, where resource constraints often hinder adherence to IPC protocols. The manual also aligns with World Health Organization (WHO) guidelines and national standards, ensuring that its recommendations are evidence-based, contextually relevant, and universally applicable.

By addressing both the training and material needs of healthcare providers, this IPC manual aims to significantly reduce HAIs and improve overall health outcomes. Beyond being a training tool, it serves as a roadmap for policymakers, healthcare administrators, and

training institutions to design and implement effective IPC programs. The integration of globally recognised practices with local needs ensures that healthcare facilities foster a culture of safety and excellence, ultimately benefiting the communities they serve.

Challenges in IPC for healthcare providers and health facilities

Healthcare providers in Pakistan face several challenges in implementing effective Infection Prevention and Control (IPC) measures. Addressing these challenges requires a comprehensive approach, including tailored training for all healthcare cadres, adequate resource allocation, infrastructure improvement, and consistent monitoring and reinforcement of IPC practices.

a) Lack of formal IPC training

Many healthcare providers, especially support cadres like sanitary workers and medical technicians, lack access to formal IPC training, leading to inconsistent practices in areas like hand hygiene, PPE use, and waste management.

b) Resource limitations

Primary health facilities often face shortages of essential IPC supplies, such as gloves, masks, and cleaning agents, as well as overcrowded environments, making it difficult to maintain infection prevention protocols.

c) Limited capacity of support cadres

Staff with lower levels of education, such as sanitary workers, struggle to understand and implement technical IPC measures effectively, resulting in knowledge gaps and inconsistent application of protocols.

d) Overburdened workflows

High patient loads, inadequate staffing, and competing priorities at primary health facilities often lead to IPC measures being deprioritised during busy or emergency situations.

e) Behavioural barriers

IPC is often perceived as non-essential or secondary by healthcare providers, leading to a lack of motivation to consistently follow protocols, particularly in low-resource settings.

f) Inadequate monitoring and evaluation

A lack of routine monitoring and evaluation mechanisms means that gaps in IPC practices often go unnoticed, allowing harmful behaviours to persist without corrective action.

g) Poor infrastructure

Many primary health facilities lack proper infrastructure, such as separate isolation areas, functional waste disposal systems, or adequate ventilation, which hinders effective implementation of IPC measures.

h) Cultural and social norms

Resistance to change or entrenched habits, such as insufficient handwashing or improper disposal of medical waste, pose challenges in adopting standard IPC practices.

Rationale

Infection Prevention and Control (IPC) is a fundamental component of healthcare, essential for protecting patients, healthcare providers, and the wider community from the spread of infectious diseases. Effective IPC measures not only reduce the prevalence of healthcare-associated infections (HAIs) but also enhance the overall quality of care across all healthcare settings. This is particularly critical in resource-constrained environments, where the burden of infections can overwhelm healthcare systems. A strong IPC framework safeguards people in vulnerable situations, improves patient outcomes, and fosters a culture of safety and excellence in healthcare delivery.

This manual has been specifically designed to address the gaps identified through a Training Needs Assessment (TNA) conducted in District Swabi. The TNA revealed significant deficiencies in healthcare providers' understanding and implementation of IPC protocols, with many reporting no prior formal training. Despite these challenges, there is a clear demand for IPC education, as demonstrated by the overwhelming consensus on its importance. This manual bridges these gaps by equipping healthcare providers with practical, evidence-based guidelines tailored to their needs, enabling them to implement effective IPC strategies that align with both national and international standards.

By focusing on actionable solutions and contextually relevant practices, this manual empowers healthcare facilities to mitigate infection risks and foster safer environments for patients and staff. Its comprehensive approach integrates knowledge with practical applications, ensuring healthcare providers are prepared to address IPC challenges effectively, contributing to improved health outcomes and strengthening healthcare systems.

Objectives

Objectives of the training are:

a) Enhance facilitation skills for trainers

Provide healthcare providers and facility staff with the skills necessary to facilitate IPC training sessions, enabling them to effectively engage their peers and cascade IPC knowledge throughout their healthcare facilities.

b) Empower healthcare providers in IPC

Equip healthcare providers and facility staff with essential knowledge and skills to effectively implement infection prevention and control (IPC) practices within their healthcare settings, promoting a culture of safety and accountability.

c) Integrate IPC into daily practices

Train healthcare providers and facility staff to seamlessly incorporate IPC measures into their daily routines, ensuring adherence to protocols related to hand hygiene, use of personal protective equipment (PPE), and safe handling of medical waste.

d) Develop role-specific IPC training modules

Create tailored training modules for different healthcare providers provider and facility staff roles—including doctors, nurses, and sanitation staff—aligned with WHO IPC guidelines to address the unique challenges they face.

e) Evaluate and sustain IPC training impact

Implement mechanisms to assess the effectiveness of IPC training programs, ensuring ongoing improvements and adaptations based on feedback to maintain high standards of infection prevention within healthcare facilities.

Target audiences

The target audience for the training includes healthcare professionals working at the health facility level, delivering diverse health interventions. The training is specifically designed to address infection prevention and control (IPC) practices that are relevant across all healthcare services. By adopting a comprehensive approach, the training aims to equip healthcare providers with the knowledge and skills required to implement effective IPC measures, thereby improving health outcomes for all patient groups and fostering safer healthcare environments.

The target audience includes the following

- Male and Female Medical Officers
- Lady Health Visitors (LHVs)
- Public Health Technicians/EPI Technicians
- Community Midwives (CMWs)
- Sanitary Workers

About this manual

Purpose

The main purpose of this training manual is to equip master trainers with the essential skills needed to effectively teach Infection Prevention and Control (IPC) practices to healthcare facility staff across various cadres. By focusing on cadre-specific IPC measures aligned with WHO and NIH guidelines, the training aims to ensure that each group of healthcare providers — including doctors, nurses, technicians, and support staff — receives relevant, role-based guidance on infection prevention.

This manual also emphasises the development of strong facilitation skills among trainers, which are crucial for delivering high-quality, interactive IPC training sessions. To support sustainable improvements in IPC standards, the training introduces effective monitoring strategies that healthcare facilities can implement to consistently evaluate and strengthen IPC practices over time.

Structure

This Infection Prevention and Control (IPC) Training Manual is tailored for master trainers, with specific sessions and modules designed to address the diverse IPC responsibilities of healthcare providers across different cadres. Organised into seven targeted modules, the manual provides clearly defined objectives, key concepts, and step-by-step instructions for effective training and practice. The modules are structured as follows:

- **Module 1:** General Introduction, Facilitation Skills, and IPC Overview: This foundational module introduces the principles of IPC and essential facilitation skills, equipping trainers to lead effective sessions. It emphasises IPC's role in reducing healthcare-associated infections (HAIs) and provides an overview of the manual's structure and approach.
- **Module 2:** IPC Training for Doctors: Tailored for doctors, this module offers a comprehensive understanding of IPC, focusing on clinical hygiene, infection control in inpatient and outpatient settings, risk assessment, outbreak response, and leadership in implementing IPC practices. It ensures doctors can act as master trainers for their teams.
- **Module 3:** IPC Training for EPI Technicians and Public Health Technicians: Designed for technicians, this module emphasises safe practices in immunisation and outpatient care, including injection safety, proper handling of sharps, and waste management. Visual aids and hands-on exercises ensure practical understanding and application.
- **Module 4:** IPC Training for Lady Health Visitors (LHVs): Focused on LHVs, this module covers key IPC practices in community and facility-based care, including environmental hygiene, safe injection practices, and patient counselling. It also addresses infection control during antenatal and postnatal check-ups, reinforcing their critical role in maternal and child health. Case studies and interactive activities enhance practical application.

- **Module 5:** IPC Training for Community Midwives (CMWs): This module addresses IPC practices for maternal and newborn care, emphasising hand hygiene, appropriate use of personal protective equipment (PPE), and infection control during childbirth and neonatal care. Practical demonstrations and role-play scenarios support the integration of IPC into routine maternity services.
- **Module 6:** IPC Training for Sanitary Workers: This module provides essential knowledge for sanitary workers, focusing on environmental cleaning, safe waste handling, and effective disinfection techniques. Accessible illustrations and relatable examples help ensure clarity and effectiveness in applying IPC measures.
- **Module 7:** Rollout Strategy, Monitoring, and Reporting Requirements: This module outlines a strategy for implementing IPC practices across all cadres, detailing guidelines for monitoring adherence, reporting compliance, and ensuring accountability. It emphasises the importance of continuous improvement in maintaining IPC standards.

Each module is organised into the following sections

- **Section objectives:** Outlines the specific IPC competencies and learning outcomes for each healthcare cadre.
- **Application of the three-step IPC approach:** Integrates three core IPC principles—Assessment, Implementation, and Communication—tailored to each module’s focus area.
- **Instructions and training materials:** Provides guidance on conducting each training session, including the use of visual aids, handouts, and equipment for demonstration purposes.

Agenda for the training of trainers (TOT)

Below is the day-wise agenda for the TOT, which will be spread over 3 days.

Agenda of day-1

Session	Activities	Duration
Welcome & opening	Formal welcome and introduction to training objectives and agenda.	10 minutes
Session 1: Introduction and expectations	Participant introductions, setting expectations, and workshop overview. Icebreaker activity.	20 minutes
Pre-test	Pre-test on the given forms by participants.	15 minutes
Session 2: Good Facilitation Skills	Principles of adult learning and facilitation methods. Engaging learners, group role-playing, and peer feedback.	40 minutes
Break		15 minutes
Session 3: Introduction to IPC	Definition, importance, and key elements of IPC. Understanding the burden of HAIs and prevention benefits.	1 hour

Session 4 - Cadre-Specific IPC Training (Medical Officers)	Hand Hygiene: WHO's 5 Moments and handwashing techniques. Standard Precautions: Respiratory hygiene, injection safety. Bloodborne Pathogen Safety: BBP risk management and protocols.	2 hours
Break		15 minutes
Session 5: Cadre-Specific IPC Training (Lady Health Visitors - LHVs)	Maternal IPC: Infection control during labour and delivery. Hand Hygiene, Sterile Techniques, Waste Disposal: Applying IPC standards in maternity settings. IPC in Antenatal/Postnatal Care: Key protocols for safe maternal health.	2 hours
End of day 1		

Agenda of day-2

Session	Activities	Duration
Session 1: Cadre-Specific IPC Training (Public Health Technicians/EPI Technicians)	IPC in Immunisation: Injection safety, cold chain management. Outbreak Preparedness: Managing IPC in campaigns.	2 hours
Break		15 minutes
Session 2: Cadre-Specific IPC Training (Public Health Technicians/EPI Technicians)	Waste Management: Safe disposal practices in immunisation settings.	40 minutes
Session 3: Cadre-Specific IPC Training (Community Midwives)	Sterilisation & Disinfection: Practical techniques for midwives. Hand Hygiene & PPE Use: Core IPC skills. Environmental Cleaning: Effective cleaning and safety measures.	2 hours

Break		1 hour
Session 4: IPC training for Sanitary Workers	Importance of Sanitation in Healthcare. Demonstration and hands-on practice of cleaning and disinfection in high-risk areas. Waste Segregation and Disposal.	
End of day 2		

Agenda of day-3

Session	Activities	Duration
Module 3: Roll-Out (Lady Health Visitors - LHVs)	Role-playing session for applying IPC in maternal care settings.	2 hours
Module 4: Roll-Out (Public Health Technicians/EPI Technicians)	Simulation on safe injection practices, outbreak response, and waste disposal during campaigns.	2 hours
Break		15 minutes
Module 5: Roll-Out (Community Midwives)	Mock exercise as facilitators for IPC protocols with midwives.	2 hours
Module 6: Roll-Out (Sanitary Workers)	Practical demonstration of cleaning and disinfection protocols, waste management exercises.	1 hour
Monitoring and sustainability (tools and Techniques)	Developing monitoring tools and feedback methods for IPC practices. Group activity: Create IPC checklists.	45 minutes
Feedback and Certification	Participant feedback, discussion on training impact, and certificate distribution.	30 minutes
Post-test	Post-test on the given form by participants.	15 minutes
Closing and end of training		

General introduction, facilitation skills and IPC overview

Module 1



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Abbreviations

- **IPC:** Infection Prevention and Control
- **HCAIs:** Healthcare-Associated Infections
- **PPE:** Personal Protective Equipment
- **ToT:** Training of Trainers
- **HAI:** Healthcare-Associated Infection
- **AIIR:** Airborne Infection Isolation Room
- **EPI:** Expanded Program on Immunisation
- **LMS:** Learning Management System
- **N95:** A type of respirator mask
- **WHO:** World Health Organization
- **NIH:** National Institutes of Health
- **UTI:** Urinary Tract Infections
- **SSI:** Surgical Site Infections
- **BSI:** Bloodstream Infections
- **RTIs:** Respiratory Tract Infections

General introduction and Infection, Prevention and Control (IPC) overview

General training instructions

Learning objectives

- Understand the importance of effective training preparation and planning in IPC training sessions.
- Learn how to and prepare the training venue, materials, and resources for effective delivery.
- Understand the role of facilitator, facilitation skills required for delivering effective trainings and enhancing the learning experience of participants.
- Gain knowledge on how to engage participants through interactive learning, multimedia, and Q&A sessions.
- Learn how to conduct role-play exercises to reinforce theoretical knowledge and improve practical application.



Training methodology

The training employs IPC as an interactive communication technique to reinforce best practices. Each module includes a mix of instruction, practical exercises, and group discussions. Role-playing exercises are incorporated at the end of each module to help participants apply their knowledge, ensuring an actionable understanding of IPC skills in real-world scenarios.

This structured approach aims to build cadre-specific IPC competencies, foster a collaborative learning environment, and enable participants to apply IPC protocols consistently within their facilities.

Planning and preparation of training

Effective facilitation skills are crucial for successful IPC training delivery. Skilled facilitators should be selected from district staff who have completed a Training of Trainers (ToT) program, equipping them with the knowledge and confidence to engage healthcare staff effectively in IPC practices. Facilitators are encouraged to review each day's training session in advance to ensure a clear understanding of objectives and content.

Venue selection

The training venue should be confirmed well in advance, ensuring it is adequately equipped and available on the scheduled training days. Clear, timely communication should be sent to all participants, with training dates and details provided at least one week beforehand to allow for adequate preparation. The venue should be set up to accommodate participants comfortably, with appropriate seating and work surfaces for interactive activities.

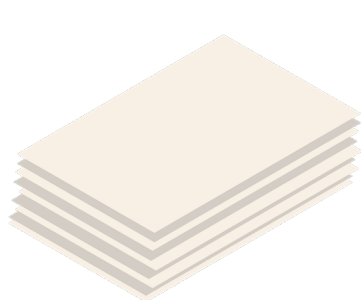
Practice sessions

Facilitators must ensure all materials for hands-on practice sessions are organised and readily available before each training day. This preparation enables participants to fully engage with IPC activities, including demonstrations, role-plays, and group exercises.

Training materials

The following materials should be prepared for each training session:

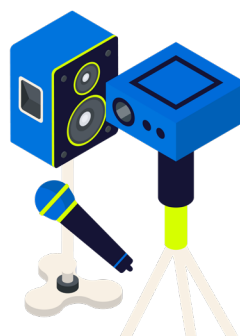
- **Participant handouts:** Ensure sufficient copies of handouts, particularly for interactive sessions with role-plays, so participants can actively participate and follow along with the session content.
- **Flip charts and Flip chart stand:** Use these with assorted markers to visualise key points and encourage participant engagement.
- **Role-play cards and scenario scripts:** Prepare materials for interactive role-playing sessions, which reinforce IPC principles in practical scenarios.
- **Multimedia equipment:** Arrange for a projector, sound system, microphone, and laser pointers to enhance the delivery of training content.
- **Stationery supplies:** Have note pads, pens, and other necessary stationery on hand for participant use.



Participant handouts



Flipcharts



Multimedia equipment



Stationery supplies

Additional preparation considerations

Facilitators should also prepare the necessary tools for training assessments and feedback collection. This includes pre- and post-training assessments, feedback forms, and materials for monitoring and documenting participation. Following these structured preparations will help ensure that the IPC training is impactful and that facilitators can support participants in effectively applying IPC practices within their healthcare settings.

Conducting a training session

The following structured steps are designed to facilitate the smooth and effective delivery of each IPC training session. These steps are crafted to enhance participant engagement, comprehension, and retention of IPC protocols, making it accessible for both participants and facilitators.

a) Preparation and familiarisation

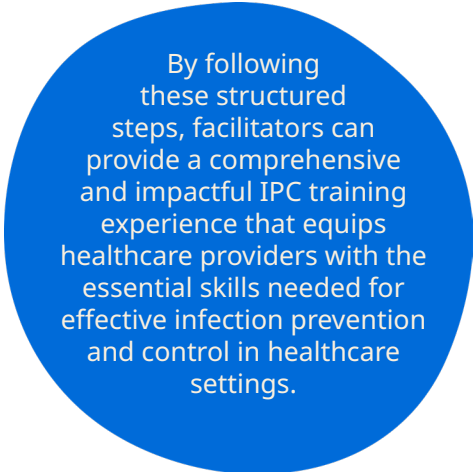
- **Pre-session reading:** Participants receive IPC training materials in advance to allow for initial background reading, helping them familiarise themselves with key concepts and best practices.
- **Setup of training materials:** Facilitators ensure all materials, including handouts, scenario cards, role-play scripts, and multimedia equipment, are organised and ready for use.

b) Interactive learning and presentation

- **Presentation of IPC concepts:** Facilitators deliver interactive presentations on critical IPC topics, such as hand hygiene, PPE usage, and waste management, using PowerPoint slides on multimedia.
- **Engagement through Q&A:** Question-and-answer segments are interspersed within or at the end of each session to encourage active learning and clarify key points. The timing of Q&A sessions can be adapted to suit both trainer and participant needs.

c) Practical application through role-play

- **Scenario-based role-plays:** At the conclusion of each session, role-play exercises allow participants to apply IPC protocols in simulated healthcare scenarios. Each role play reflects real-world IPC challenges tailored to specific cadres, enabling participants to practice skills such as patient interaction, PPE use, and waste disposal.
- **Guidance on best practices:** Facilitators provide constructive feedback and guidance during role-play exercises, reinforcing adherence to WHO and NIH guidelines.



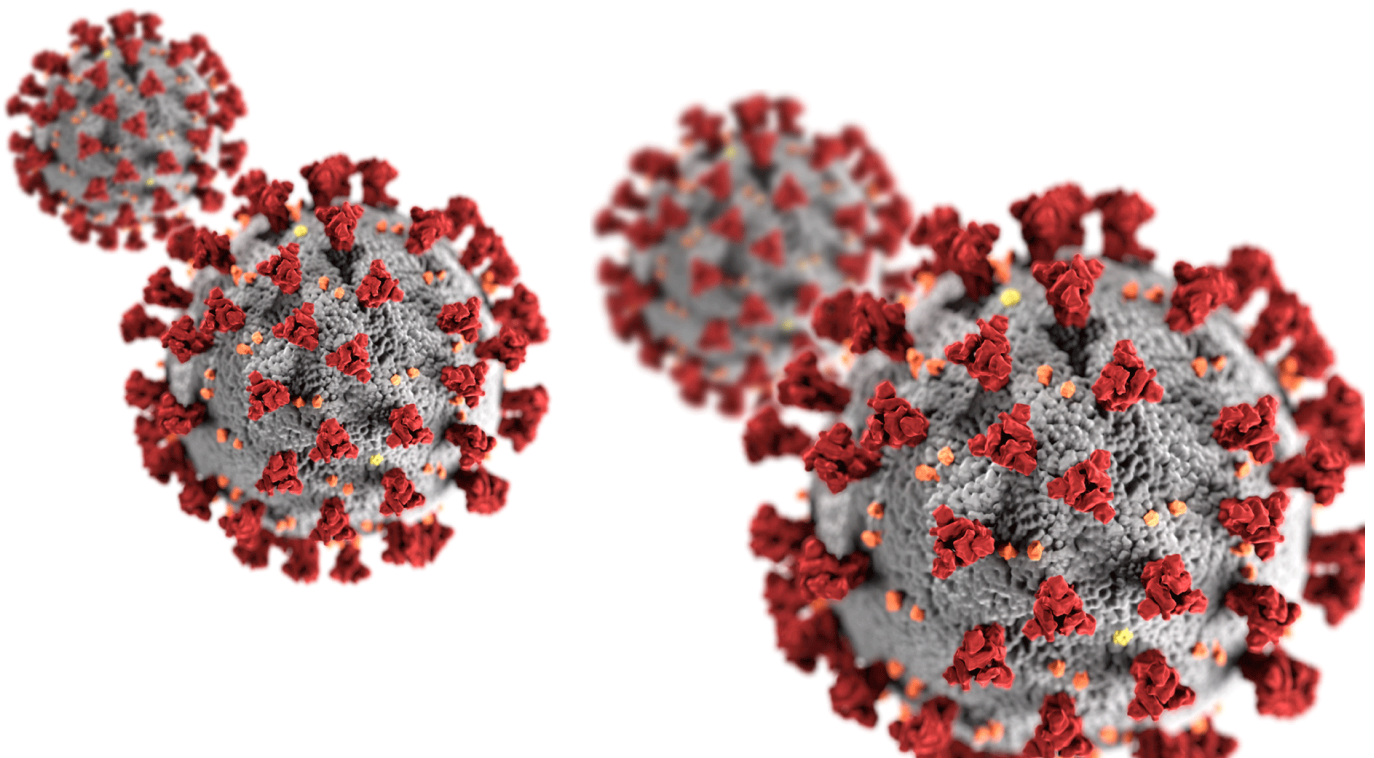
By following these structured steps, facilitators can provide a comprehensive and impactful IPC training experience that equips healthcare providers with the essential skills needed for effective infection prevention and control in healthcare settings.

d) Feedback and reflection

- **Participant feedback collection:** Feedback on the session content, delivery, and practical exercises is collected from participants to assess training effectiveness and areas for improvement.
- **Documentation of insights:** Facilitators document participant feedback and identify suggestions for future improvements in IPC training delivery.

e) Continuous learning and improvement

- **Knowledge assessment:** Pre- and post-training assessments are conducted to gauge participants' IPC knowledge retention and application skills.
- **Feedback implementation:** Documented feedback is used to refine future training sessions, ensuring continuous improvement in IPC education quality and relevance.



Session 1:

Introduction and expectations

This session focuses on introducing training participants, establishing shared training norms, setting mutual expectations, and conducting a pre-test. By fostering an inclusive and positive learning atmosphere, this foundational approach ensures participants feel engaged and aligned with the objectives. This foundational approach will establish a positive learning atmosphere, allowing trainers to transition smoothly into the next session on facilitation techniques. It also helps trainers seamlessly transition into IPC-specific facilitation techniques, laying the groundwork for effective and impactful learning.

1.1. Session structure and key activities

a) Introduction to the session and icebreaker (10 minutes)

Begin the session with a welcoming icebreaker, which will set a relaxed tone and encourage participants to get acquainted with one another. A simple activity like “Two Truths and a Lie” or a brief self-introduction is ideal. Have each trainer share their role and a specific goal they hope to achieve during the IPC training program.

After the ice breaker, outline the session objectives:

- Introduce core facilitation skills tailored to IPC.
- Foster a collaborative learning environment.
- Establish group norms and expectations for participation and engagement.

b) Establishing norms and expectations (5 minutes)

Facilitation of success depends on a positive, respectful atmosphere. Invite participants to collaboratively set ground rules, emphasising punctuality, respect for differing opinions, and confidentiality. Ask each trainer to voice any specific expectations or challenges they anticipate when facilitating IPC sessions. This open discussion will help build trust and set a tone of shared responsibility for the training process.

c) Pre-test

Conclude by distributing the pre-test, which will assess the trainers’ baseline understanding of IPC principles and their initial facilitation skills. The results of this pre-test will guide the program and allow adjustments to meet the group’s needs.

Session 2:

Good facilitation skills

This session introduces good facilitator skills and facilitation skills, essential for trainers/ training facilitators tasked with conducting cascade or trickle-down IPC training sessions. The session is designed to orient trainers to the fundamentals of effective facilitation, enabling them to engage healthcare providers in a dynamic and impactful way. Given the specific focus on IPC, trainers will learn strategies to convey critical IPC concepts clearly and to create an interactive, inclusive learning environment.

Learning objectives

- Understand the core principles of effective training facilitation.
- Learn how to engage and motivate participants through active listening and empathetic communication.
- Develop skills to create a conducive learning environment that encourages participant involvement and interaction.
- Master the techniques of guiding discussions, managing group dynamics, and addressing challenges during training sessions.
- Gain the ability to assess participant understanding and adjust facilitation techniques accordingly.
- Enhance skills in providing constructive feedback to improve participant learning and performance.



2.1. Overview of core facilitation skills

Effective facilitation is a cornerstone of impactful training, particularly in the context of Infection Prevention and Control (IPC). A skilled facilitator not only imparts knowledge but also creates an engaging, supportive, and adaptive learning environment. Below are the key facilitation skills that contribute to the success of IPC training:

a) Communication skills:

A good facilitator must be able to explain complex concepts in a clear and accessible way. This includes simplifying technical jargon, using relatable examples, and maintaining a friendly tone. Effective communication bridges the gap between knowledge and practice, ensuring participants understand how to translate IPC protocols into actionable steps in their healthcare settings.

b) Active listening

Active listening demonstrates respect for participants and encourages open dialogue. Facilitators can use vocal cues, nods, and gestures to show attentiveness and ensure participants feel heard. By listening actively, facilitators can address participants' specific concerns and tailor the session to meet their needs.

c) Adaptability

Every group of learners is unique, and facilitators must adjust their approach based on participants' levels of understanding, cultural contexts, and feedback. This might involve slowing down to clarify a concept or introducing additional activities to reinforce learning. Adaptability ensures that all learners stay engaged and benefit from the training.

d) Maintaining focus

Facilitators must guide discussions and activities to stay on track with the session objectives. This involves gently redirecting off-topic conversations and ensuring that all planned content is covered within the allotted time. Keeping a session focused helps participants grasp essential IPC concepts effectively.

e) Organisational skills

Strong organisational skills are critical for managing training logistics, from planning the agenda to ensuring all materials are prepared. Facilitators should keep track of schedules, anticipate potential challenges, and ensure the smooth flow of activities throughout the training.

f) Public speaking

Confidence in public speaking enables facilitators to engage participants effectively. This includes presenting information with energy, handling questions with poise, and fostering a dynamic and interactive learning environment. Public speaking skills help facilitators convey authority and encourage participant participation.

g) Analytical skills

A skilled facilitator can analyse the training needs of participants and evaluate the effectiveness of the session. By identifying gaps in understanding or areas where participants need more support, facilitators can make informed decisions to enhance the training experience.

h) Technical proficiency

In today's training environments, familiarity with digital tools and platforms is essential. Facilitators should be comfortable using virtual classrooms, webinars, and learning management systems (LMS) to deliver content effectively, especially in hybrid or online settings.

i) Creative thinking

Active listening demonstrates respect for participants and encourages open dialogue. Facilitators can use vocal cues, nods, and gestures to show attentiveness and ensure participants feel heard. By listening actively, facilitators can address participants' specific concerns and tailor the session to meet their needs.

j) Interpersonal skills

A good facilitator connects with participants on a personal level, fostering a sense of trust and collaboration. By understanding the diverse backgrounds and needs of participants, facilitators can create an inclusive and supportive learning environment that encourages active participation.

Engagement techniques for IPC training

To enhance learning, facilitators can employ:

- **Interactive Activities:** Role-playing, group discussions, and hands-on demonstrations.
- **Open-Ended Questions:** Encouraging critical thinking and peer input.
- **Quick Checks for Understanding:** Using quizzes, polls, or verbal summaries to assess comprehension.

By mastering these facilitation skills, trainers can empower healthcare providers with the knowledge, confidence, and motivation to implement effective IPC practices, ultimately contributing to safer and more resilient healthcare systems.

2.2. Key facilitation skills for IPC training (15 minutes)

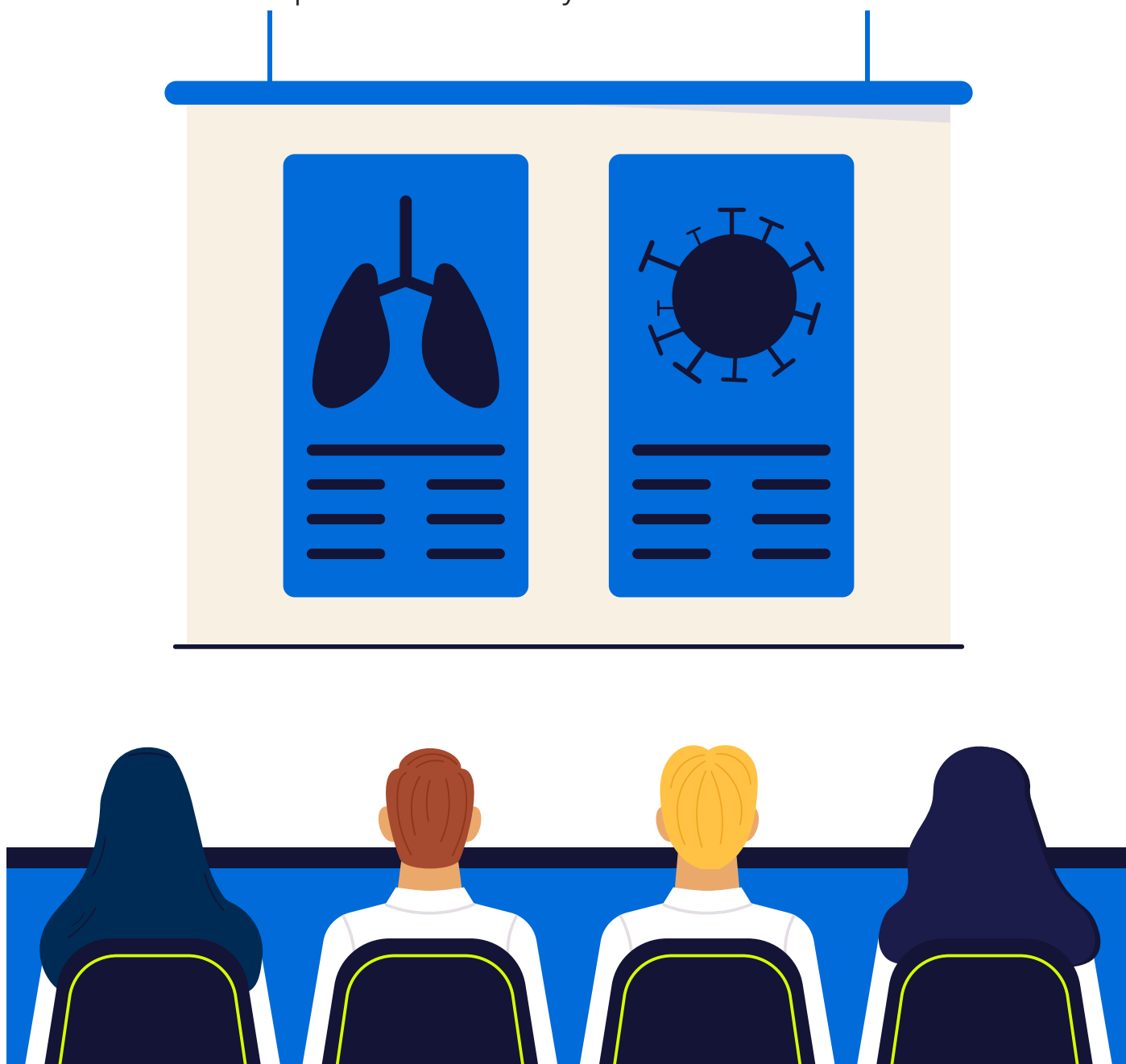
Introduce trainers to methods specific to IPC training facilitation

- **Demonstrations and role-play:** Highlight the value of using clear, step-by-step demonstrations, especially for hands-on topics like hand hygiene or PPE procedures. Illustrate how to use role-play exercises to model IPC scenarios that healthcare staff will encounter, like waste disposal or handling sharps safely.
- **Encouraging participation and feedback:** Explain that effective IPC facilitation includes methods for actively involving participants in discussions. For instance, trainers can ask reflective questions ("How would you apply this in your daily routine?") and solicit peer feedback. Highlight the importance of creating an environment where participants feel safe sharing insights and questions.

2.3. Practice activity: micro-facilitation (10 minutes)

For this activity, pair up participants to practice a micro-facilitation exercise

- **Instructions for activity:** Each trainer will select an IPC topic, such as hand hygiene or proper PPE use, and conduct a 3–4-minute facilitation segment. Partners will provide constructive feedback, focusing on clarity, engagement, and pacing.
- **Feedback guidelines:** Encourage participants to give specific, helpful feedback on what went well and areas to improve. Trainers will benefit from immediate insights, which can refine their approach for future sessions.
- **Reflection and feedback:** Close the session by inviting participants to share one facilitation skill they plan to work on or apply in upcoming IPC training sessions. This reflection reinforces personal accountability and commitment to effective facilitation.



Session 3:

Introduction to IPC and its importance for healthcare settings

Learning objectives

- Define Healthcare-Associated Infections (HCAIs) and understand their causes, transmission routes, and impact on patients and healthcare systems.
- Identify essential elements of IPC and apply them in their daily work.
- Utilise standard precautions, including hand hygiene, PPE, and safe waste disposal, to reduce the risk of infection transmission.
- Recognise specific IPC measures suited to various healthcare settings, such as hospitals, outpatient facilities, and long-term care.
- Monitor and report infection cases accurately, understanding the importance of data in preventing HCAIs.



3.1. Basic concepts in Infection Prevention and Control (IPC)

Infection Prevention and Control (IPC) encompasses a set of practices aimed at preventing the spread of infections within healthcare settings. These practices are designed to protect both patients and healthcare providers by reducing the transmission of infectious agents. Effective IPC protocols are essential for maintaining a safe healthcare environment and play a vital role in minimising Healthcare-Associated Infections (HCAIs).



Diagram showing the crucial elements involved in infection control mechanism.

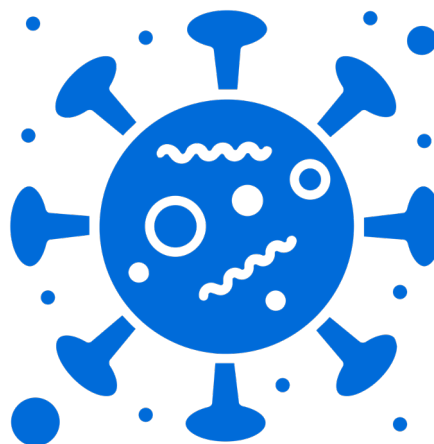
3.2. Key concepts of IPC

Infection Prevention and Control (IPC) encompasses a set of practices aimed at preventing the spread of infections within healthcare settings. These practices are designed to protect both patients and healthcare providers by reducing the transmission of infectious agents. Effective IPC protocols are essential for maintaining a safe healthcare environment and play a vital role in minimising Healthcare-Associated Infections (HCAIs).

a) Mode of infection transmission

Infections spread through various routes

- Direct contact (touch)
- Indirect contact (through surfaces or objects)
- Airborne transmission (coughing, sneezing)
- Droplet transmission
- Vector-borne routes (e.g., insects)

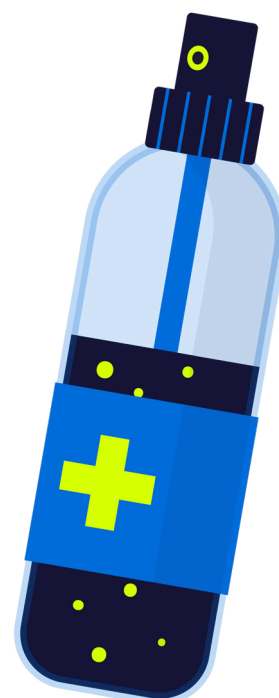


Understanding these transmission pathways is essential for implementing targeted IPC measures to prevent infection spread.

b) Standard precautions

Standard precautions are the basic IPC practices applied to all patient interactions, regardless of their infection status. These include:

- **Hand hygiene:** The most important IPC practice, involving proper handwashing or use of alcohol-based hand rubs.
- **Personal Protective Equipment (PPE):** Use of gloves, gowns, masks, and eye protection to prevent contact with infectious agents.
- **Safe injection practices:** Proper handling of needles and syringes to avoid contamination and needle-stick injuries.
- **Environmental cleaning:** Regular cleaning of surfaces and medical equipment to reduce contamination.



c) Transmission-based precautions

These are additional measures taken when standard precautions alone are insufficient to prevent the spread of certain infectious diseases. Transmission-based precautions include:

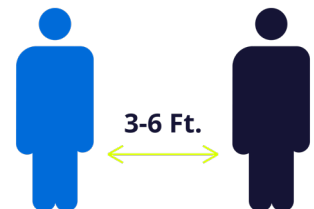
Contact precautions

- Wearing gloves and gowns before entering the patient's room and disposing of them appropriately before exiting.
- Thorough hand hygiene should be performed before and after patient contact, as well as after removing gloves.
- Using dedicated or disposable equipment, such as stethoscopes and blood pressure cuffs, to prevent cross-contamination.
- If equipment must be reused, it should be thoroughly disinfected after use.
- Private rooms are preferable for patients with infections. If private rooms are unavailable, it is recommended to cohort patients with the same infection.
- These measures are essential to prevent the spread of infections and ensure a safe healthcare environment.



Droplet precautions

Droplet precautions are used for infections spread through large droplets (e.g., influenza). These precautions are essential to protect against infections spread by respiratory droplets expelled when a patient coughs, sneezes, or talks. These droplets typically travel short distances, about 3 to 6 feet, before settling. Examples of infections requiring droplet precautions include influenza, pertussis (whooping cough), and meningococcal meningitis. To effectively implement these precautions:

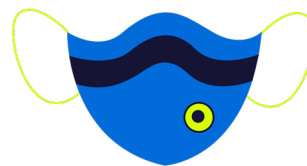


- Healthcare providers should wear surgical masks when within close proximity (3-6 feet) of the patient.
- If there is a risk of splashes, additional eye protection, such as goggles or face shields, is advisable.
- Patients should be placed in private rooms. If private rooms are unavailable, they may be cohorted with others who have the same infection or kept at least 3 feet apart with physical barriers such as curtains.
- Patient transport should be minimised, and patients should wear surgical masks during transport.
- Meticulous hand hygiene is necessary after any contact with the patient or their environment.

These steps ensure that the infection is controlled and that healthcare providers and other patients are protected from potential transmission.

Airborne precautions

Airborne precautions are essential to prevent the spread of infections transmitted by fine aerosolised particles. These particles can remain suspended in the air for extended periods and travel over significant distances. Infections such as tuberculosis, measles, and varicella (chickenpox) require airborne precautions. To implement these precautions effectively:



- Healthcare providers must wear a fit-tested N95 respirator (or equivalent) before entering the patient's room.
- Patients should be isolated in a negative-pressure room (also known as an Airborne Infection Isolation Room, or AIIR). These rooms ensure air is filtered to prevent contamination of the surrounding areas.
- The room's door must remain closed at all times to maintain the negative pressure.
- Ventilation systems in these rooms should provide at least 12 air exchanges per hour to effectively remove infectious particles.
- Patient transport should be minimised. If transport is necessary, the patient must wear a surgical mask, and any infectious skin lesions should be covered.
- Hand hygiene should be performed thoroughly before and after patient contact, as well as after removing any personal protective equipment (PPE).

These precautions help to protect both healthcare providers and others from airborne transmission of infections.

d) Environmental hygiene

- Cleaning and disinfecting patient care areas and frequently-touched surfaces is crucial in reducing the spread of infections.
- Effective waste management is essential to safely dispose of hazardous waste and prevent contamination.



e) Healthcare-Associated Infections (HCAIs)

- HCAIs are infections acquired within a healthcare setting that were not present or incubating at the time of admission.
- Common HCAIs include urinary tract infections, surgical site infections, bloodstream infections, and respiratory infections.
- Reducing HCAIs is a primary goal of IPC programs, as they contribute to longer hospital stays, higher treatment costs, and increased mortality.

Implementing IPC practices helps achieve several critical goals in healthcare, including:

- Reducing the spread of infectious diseases and safeguarding patient health.
- Protecting healthcare staff from exposure to infections.
- Minimising the incidence and impact of HCAIs, which can lead to complications, prolonged hospital stays, and increased healthcare costs.
- Improving overall public health outcomes by controlling infection sources and preventing outbreaks.

f) Activity: Understanding the importance of IPC

Wrap-up for trainers: Concluding the session

Objective:

This activity aims to help participants understand the significance of Infection Prevention and Control (IPC) by drawing parallels to everyday practices and engaging them in the application of IPC principles.

Instructions for facilitator:

Start by asking participants what they understand by the term “Infection Prevention and Control (IPC).” Encourage them to share their thoughts and capture key ideas on a flip chart. Explain that IPC involves practices and measures to prevent the spread of infections, ensuring both personal and environmental safety. Split the participants into two groups: one focusing on IPC practices in personal care (e.g., hand hygiene, use of personal protective equipment) and the other on IPC practices in healthcare environments (e.g., sterilisation, cleaning, waste management). Ask each group to list key IPC practices related to their focus area. After a few minutes, have each group present their list and facilitate a discussion about how these practices align with IPC principles in healthcare settings. Conclude by emphasising the importance of both personal and environmental IPC in preventing infections and maintaining a safe healthcare environment.

Conclusion of module 1

To effectively conclude the session and reinforce learning:

a) Recap key points

- Summarise the main topics covered, such as the importance of facilitation skills, the role of IPC in healthcare, and the significance of HAIs prevention.
- Highlight the relevance of each topic to the participants' daily roles.

b) Encourage reflection

- Ask participants to share one takeaway from the session that they plan to apply in their work.
- Use open-ended questions to foster group discussion and encourage engagement.

c) Set expectations for the next steps

- Outline what participants can expect in the upcoming sessions, linking it to the foundation built in this one.
- Emphasise the continuity of learning and practical application.

d) Express appreciation

- Thank participants for their active participation and contributions.
- Reinforce the value of their role in implementing IPC practices.

e) Close on a motivational note

- Inspire participants by emphasising the positive impact they can have in preventing infections and improving maternal and neonatal health.



Infection, Prevention & Control (IPC) for medical officers / doctors

Module 2



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Abbreviations

- **IPC:** Infection Prevention and Control
- **MOs:** Medical Officers
- **LHVs:** Lady Health Visitors
- **HAIs:** Healthcare-Associated Infections
- **WHO:** World Health Organization
- **BBP:** Bloodborne Pathogens
- **PPE:** Personal Protective Equipment
- **SSI:** Surgical Site Infection
- **ABHR:** Alcohol-Based Hand Rub
- **EPI:** Expanded Programme on Immunisation
- **HIV:** Human Immunodeficiency Virus
- **HBV:** Hepatitis B Virus
- **HCV:** Hepatitis C Virus
- **SOP:** Standard Operating Procedure
- **N95:** A type of respirator mask
- **AIIR:** Airborne Infection Isolation Room
- **BBP:** Bloodborne Pathogen
- **PPE:** Personal Protective Equipment
- **SSIs:** Surgical Site Infections
- **LMS:** Learning Management System
- **RTIs:** Respiratory Tract Infections
- **HAIs:** Healthcare-Associated Infections
- **BOD:** Body of Diseases

Introduction: **Infection Prevention and Control (IPC) training for medical officers / doctors**

Learning objectives

- Understand WHO's 5 Moments of Hand Hygiene and demonstrate proper techniques.
- Identify and apply standard precautions to minimise infection risks.
- Practise safe injection techniques to prevent infections and needle-stick injuries.
- Recognise bloodborne pathogen risks and implement prevention strategies.
- Apply IPC protocols in surgical and invasive procedures to maintain a sterile environment.
- Develop facilitation skills to engage learners and encourage participation effectively.
- Manage group dynamics and foster collaboration in diverse training settings.
- Monitor learning outcomes and provide constructive feedback to train.



Introduction of the module

This module on Infection Prevention and Control (IPC) is specifically designed for Medical Officers (MOs)/ doctors to enhance their expertise in implementing and teaching IPC practices as trainers and practitioners.

The module provides an in-depth understanding of core IPC principles, such as hand hygiene, safe injection practices, sterilisation and disinfection, waste segregation and disposal, and environmental hygiene. It emphasises the critical role of doctors in leading healthcare teams to prevent healthcare-associated infections (HAIs) and ensure the safety of both patients and providers in clinical settings.

Through interactive sessions and scenario-based learning, this training equips doctors with the skills to practice, mentor and train other healthcare workers, including nurses, Lady Health Visitors (LHVs), and community midwives. It highlights evidence-based practices tailored to various healthcare settings, from primary care clinics to hospitals, focusing on resource optimisation and adherence to global and national IPC standards. The module also explores strategies for addressing challenges such as resource constraints, compliance gaps,

and resistance to change.

By the end of this module, MOs / doctors will be well-prepared to act as role models and trainers, fostering a culture of infection prevention within their facilities. They will gain practical tools and strategies for monitoring IPC compliance, guiding their teams effectively, and improving patient safety outcomes, contributing to the broader goal of advancing healthcare quality and reducing HAIs.

Agenda for IPC training for medical doctors

Session	Activities	Duration
General session 1: How to conduct a training session	Introduction to effective facilitation techniques, engaging participants, and managing group dynamics.	45 minutes
Session 2: Hand hygiene for doctors	Overview of hand hygiene principles, WHO's 5 Moments of Hand Hygiene, demonstration, and practice.	50 minutes
Tea break		20 minutes
Session 3: IPC standard precautions	Explanation of standard precautions in healthcare settings, including PPE, safe injections, and aseptic techniques.	1 hour 30 minutes
Session 4: Bloodborne Pathogen (BBP) safety	Introduction to BBP risks, safety protocols, and post-exposure procedures.	45 minutes
Lunch break		45 minutes
Session 5: Introduction to IPC in surgery and invasive procedures	Discussion on surgical site infection prevention, sterile techniques, and invasive procedure protocols.	1 hour
Session 6: Monitoring, sustainability and feedback techniques for IPC	Techniques for monitoring and sustainability IPC compliance, providing constructive feedback, and fostering improvement and sustaining IPC practices.	45 minutes
Closing of session		

General session 1:

How to conduct a training session

To effectively roll out the training session, trainers should begin the session by introducing the session objectives clearly, ensuring participants understand the relevance of the training to their roles in infection prevention and control (IPC). Establish a structured agenda, outlining the sequence of topics and activities, such as presentations, group discussions, and practical exercises.

Start with an engaging icebreaker or a brief discussion to connect the training content to participants' daily work experiences, highlighting its importance in improving healthcare safety and outcomes. Encourage active participation by setting expectations for interactive learning, including Q&A sessions and role-play activities.

Encourage active participation by setting expectations for interactive learning, including Q&A sessions and role-play activities. Ensure all training materials, such as handouts, multimedia resources, and demonstration tools, are prepared and organised in advance to facilitate a seamless learning experience. Use this module as a standalone piece, ensuring each concept is introduced, explained, and practised thoroughly, allowing participants to leave with actionable knowledge and skills.



A doctor conducting training session of healthcare staff on infection control in hospital settings. March 2025



Trainer notes for the session

- **Highlight relevance:** Emphasises the vital role of IPC in reducing healthcare-associated infections (HAIs) and ensuring patient safety.
- **Clarify objectives:** Provide a brief overview of session goals, focusing on practical IPC measures like hand hygiene, safe injections, and surgical site infection prevention.
- **Share agenda:** Outline the flow of topics and activities, including interactive discussions, demonstrations, and role-play exercises.
- **Engage with experience:** Start with an icebreaker or discussion linking IPC training to participants' daily challenges in healthcare.
- **Encourage participation:** Set expectations for active engagement through Q&A, group work, and practical exercises to reinforce learning.
- **Ensure preparedness:** Confirm all materials and tools, such as handouts, multimedia, and demonstration kits, are ready and accessible.

Key message for doctors: This session equips you with practical IPC tools to protect your patients and yourselves. Engage fully to ensure these measures seamlessly integrate into your daily routines, enhancing healthcare quality and safety.

Session 2:

Hand hygiene for doctors (40 minutes)

2.1. Session objective

To enable doctors, understand the importance of handwashing, apply WHO's 5 Moments of Hand Hygiene and demonstrate proper handwashing techniques to prevent healthcare-associated infections (HAIs) effectively.

Guideline for trainers (doctors)

Introduction (5 minutes)

- **Welcome and context:** Begin by highlighting the significance of hand hygiene in preventing HAIs, protecting patients, and ensuring healthcare safety.
- **Objective overview:** Explain that participants will learn the principles of WHO's 5 Moments of Hand Hygiene and practise handwashing techniques during the session.

Note: Ask participants, "What are some challenges you face in maintaining hand hygiene during daily practise?" Summarise their responses.

2.2. Explanation of WHO's 5 Moments of Hand Hygiene

a) Opening with brainstorming (5 minutes)

The trainer will begin the session with a brainstorming activity, exploring participants' understanding of why hand hygiene is necessary in a hospital setting and when handwashing is critical. This interactive activity will create an inclusive atmosphere and smoothly transition into learning the structured WHO framework. We must wash our hands. The trainer will ask an open-ended question, such as:

Why is hand hygiene necessary?

- Encourage participants to share their experiences or observations from their practice.

Can you name key moments during patient care when handwashing is absolutely critical?

- Write their responses on a whiteboard or flip-chart to visualise their input.

b) Transition to WHO's 5 Moments (10 minutes)

- Highlight commonalities between their responses and introduce the concept of the WHO's 5 Moments of Hand Hygiene as a standardised framework.
- Share a slide or visual aid summarising the 5 moments:
 - Before patient contact
 - Before a clean/aseptic procedure
 - After exposure to bodily fluids
 - After patient contact
 - After touching patient's surroundings

Hand hygiene is one of the most critical and effective measures in preventing healthcare-associated infections (HAIs). As a trainer/ practitioner, your role is to understand and help participants understand the importance of hand hygiene and adopt the principles outlined by the World Health Organization (WHO). This session focuses on explaining the 5 Moments of Hand Hygiene and their application in healthcare settings.

Before touching a patient

Emphasise the importance of ensuring clean hands before any direct contact with a patient. Explain how this step protects the patient from harmful germs that healthcare workers may carry on their hands.

Before a clean/aseptic procedure

Highlight the significance of performing hand hygiene before tasks such as inserting catheters or administering injections. This step prevents introducing pathogens into sterile areas of the body.

After body fluid exposure/risk

Reinforce that hand hygiene must be performed immediately after exposure to body fluids or any situation where contamination might occur, even if gloves were worn. This protects both the healthcare worker and others from potential infections.

After touching a patient

Explain that after any direct contact with a patient, healthcare workers must clean their hands to prevent the spread of germs to their surroundings or to other individuals.

After touching patient surroundings

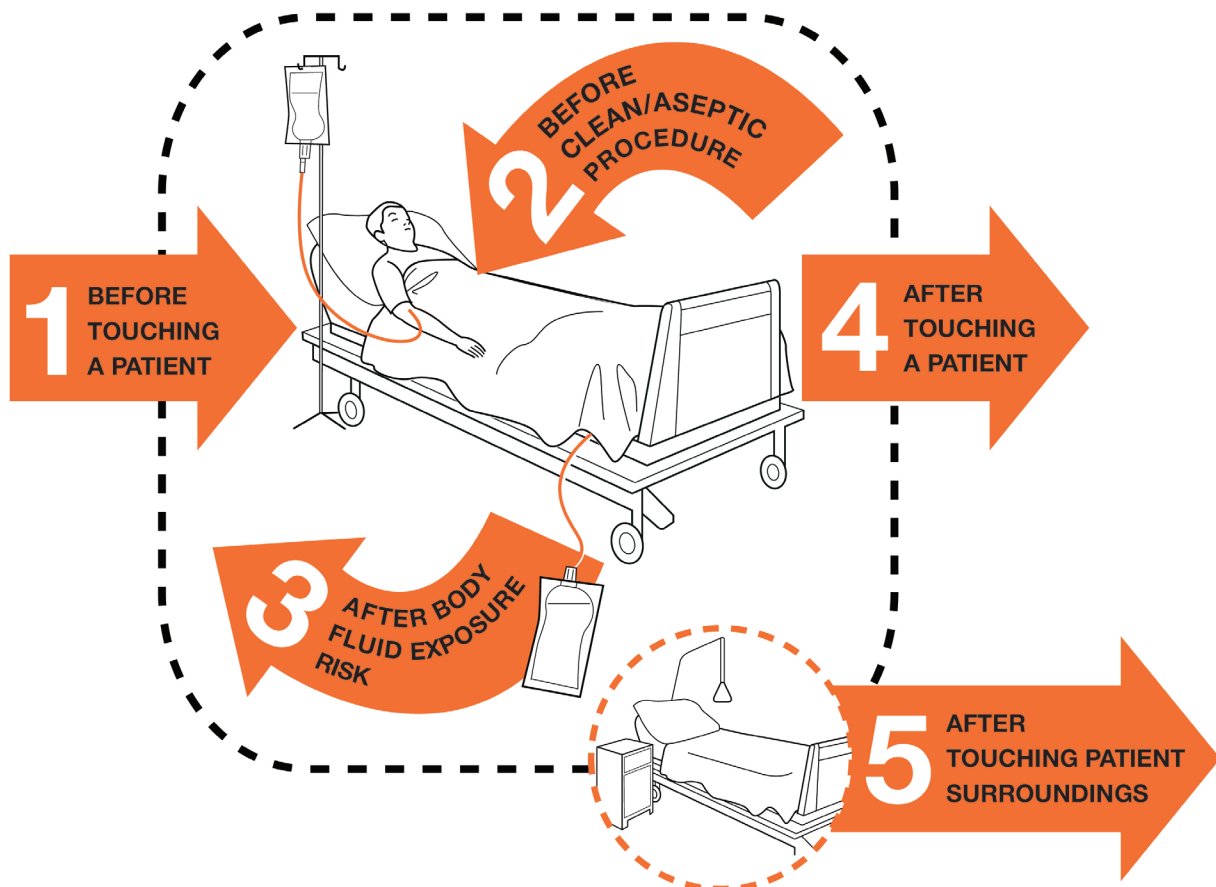
Stress the importance of hand hygiene after contact with a patient's immediate environment, even if the patient was not directly touched. Germs can survive on surfaces and pose a risk to others.



c) Emphasise relevance (5 minutes)

- Discuss why these specific moments are critical for infection prevention in hospitals.
- Use real-life examples or case studies to explain how missing these moments can lead to healthcare-associated infections (HAIs).

Five moments of hand hygiene.



Source: Guidelines on hand hygiene in healthcare. Geneva: World Health Organization, 2009.

Trainer's note

Provide real-world examples to illustrate the impact of proper hand hygiene. For instance, share data on how adherence to hand hygiene protocols significantly reduces the incidence of HAIs, protects vulnerable populations, and improves patient outcomes. Use relatable scenarios, such as reducing the spread of diarrhoeal diseases linked to poor hygiene practices in healthcare settings.

Visual demonstration

Show images or play a short video demonstrating the 5 Moments of Hand Hygiene in action. These visual aids will help participants better understand how and when to apply the hand hygiene moments during their daily practices. Highlight both good and poor hand hygiene practices to emphasise the importance of consistency and accuracy.

By the end of this presentation, participants should have a clear understanding of the 5 Moments of Hand Hygiene and feel confident in applying these principles to reduce the spread of infections in healthcare settings.

<https://www.youtube.com/watch?v=XVYn2AoSneA>

2.3. Demonstration and practical exercise: Step-by-step handwashing technique

This session emphasises the correct handwashing technique as a cornerstone of infection prevention and control (IPC). Through a detailed demonstration and hands-on practice, participants will learn and refine the steps of effective handwashing.

Step-by-step demonstration (20 minutes)

Begin by explaining the importance of thorough handwashing in preventing the spread of germs and reducing healthcare-associated infections (HAIs). Emphasise how proper technique ensures the removal of pathogens and contaminants.

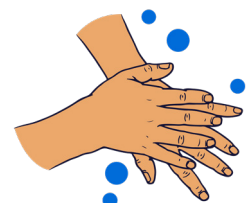
Demonstration steps

- **Wet hands with water:** Show participants how to wet hands under running water to ensure complete coverage, preparing the skin for soap application.



- **Apply soap and rub palms together:** Use a small amount of soap, demonstrating how to lather it evenly across both palms, ensuring all areas are covered.

- **Rub the back of each hand, between fingers, and around thumbs:** Demonstrate systematic movements to clean the back of the hands, interlacing fingers, and focusing on the thumb, an area often missed.



- **Clean fingertips and under nails:** Highlight the importance of cleaning fingertips by rubbing them against the opposite palm and paying special attention to areas under the nails where germs accumulate.



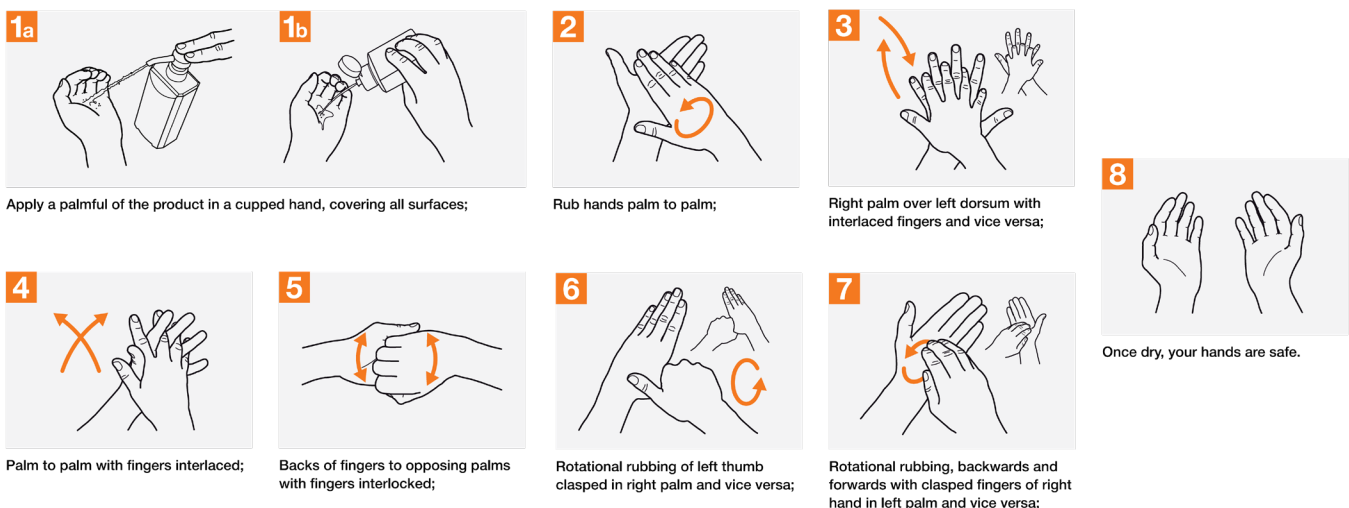
- **Rinse thoroughly and dry with a tissue or air dryer:** Stress the importance of rinsing off all soap to prevent skin irritation and ensure hands are free of contaminants. Use a clean tissue or an air dryer to complete the process.

2.4. Cleaning hands with Alcohol-Based Hand Rub (ABHR)

Alcohol-based hand rub is the preferred choice for hand hygiene if hands are not visibly soiled, because ABHR is more effective in killing microorganisms than plain or antimicrobial soaps and water, and it has other significant advantages. The alcohol in ABHR kills microorganisms by denaturing proteins (i.e., they dissolve some microbe components). It also has persistent activity, meaning that it takes longer for microorganisms to repopulate the hands. Hand hygiene with ABHR has advantages over hand hygiene with soap and water, including:

- It takes less time—only 20 to 30 seconds. In a very busy work environment, ABHR can save you time!
- ABHR can be placed directly at the point of care, making it convenient and easy to perform hand hygiene within your clinical workflow.
- Hand hygiene with ABHR does not need sinks, water, or towels—hands are air dried.

It is important to note that the active ingredient—alcohol—is flammable and that you should be careful and make sure any ABHR is stored away from flames. The following images show the steps of how to use Alcohol-Based Hand Rub (ABHR) for hand hygiene:



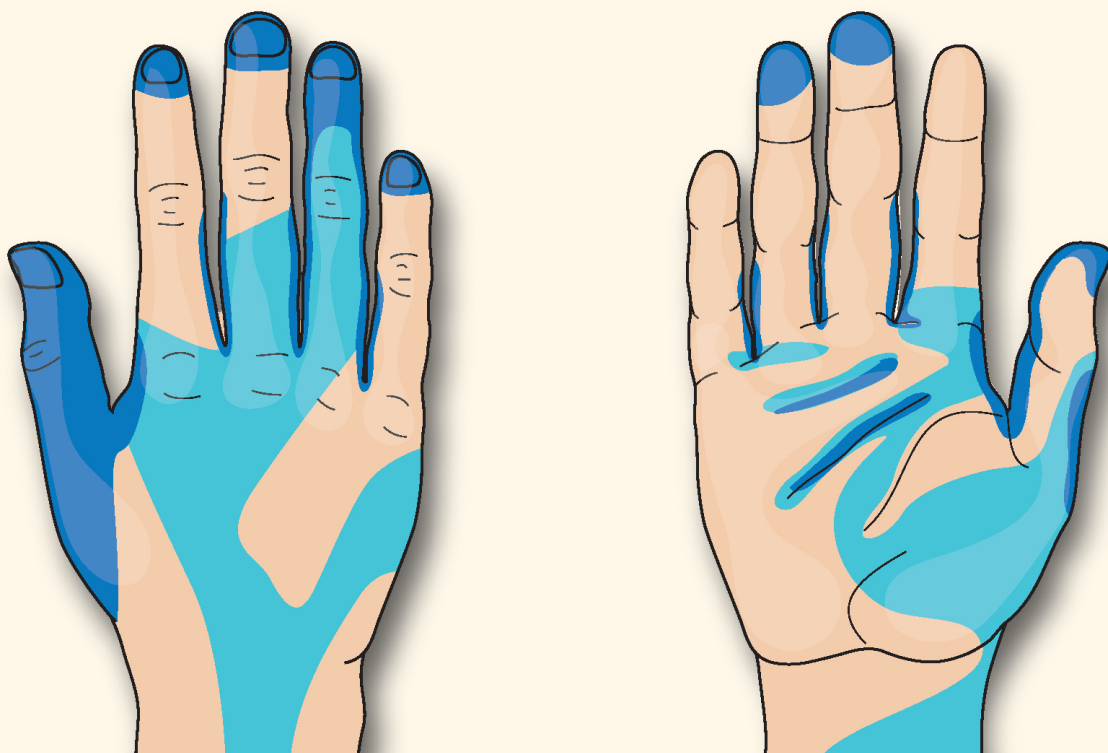
Source: Guidelines on hand hygiene in healthcare. Geneva: World Health Organization, 2009.

Group activity

Divide the participants into small groups, providing each group with a handwashing setup, including soap, water, and tissue or air dryers. Ensure that all materials are easily accessible and hygienically arranged.

Participant practice

Ask each participant to practise the demonstrated technique. Encourage them to perform the steps methodically, paying attention to commonly missed areas such as thumbs, fingertips, and under nails.



	Most frequently missed		Frequently missed		Less frequently missed
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Parts of the hands most frequently missed during hand decontamination.

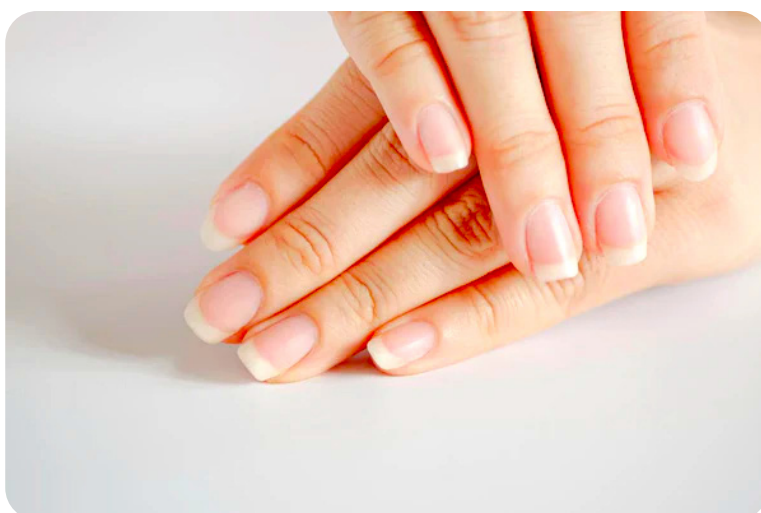
From: Damani N. Manual of Infection Prevention and Control. Oxford: Oxford University Press, 2019



Importance of hand hygiene. Number of microbes before and after hand hygiene.



Any Jewellery (including rings, watches) should not be worn as it will prevent effective hand hygiene. The second picture shows the number of bacteria grown on the microbiology culture plate under the ring.



Nails must be cut short and kept clean, as long nails harbour bacteria.



Use of nail polishes and artificial nails should be avoided as they harbour bacteria and hinder effective hand hygiene.

Feedback and observation

While participants practise, trainers should circulate among the groups, observing their techniques.

Offer immediate and constructive feedback, correcting any missteps. For instance, if someone neglects to clean between their fingers, guide them to redo the step and explain why it's critical.

Tips for trainers

- Highlight common mistakes, such as inadequate rinsing or skipping areas, and demonstrate the correct method again if needed.
- Encourage participants to observe their peers and provide feedback to reinforce learning.
- Use encouraging language to build confidence and ensure a positive learning environment.

Session 3:

IPC standard precautions (45 minutes)

This structured session ensures that participants leave with a clear understanding of how to implement standard precautions effectively, building a foundation for improved infection prevention and control in healthcare settings.

Topic focus: Overview of standard precautions, including respiratory hygiene and safe injection practices.

Session objectives

By the end of this session, participants will be able to:

- Understand the principles of standard precautions in IPC and their significance in reducing infection risks.
- Identify key components of standard precautions, including respiratory hygiene, hand hygiene, and safe injection practices.
- Apply standard precautions in real-world healthcare settings through case study analysis and group discussions.

3.1. Standard precautions for Infection Prevention and Control (IPC)

Introduction (5 minutes)

Begin the session by introducing standard precautions as the cornerstone of infection prevention and control (IPC). Explain that these practices are universally applied to all patients in all healthcare settings, regardless of their diagnosis or perceived infection status. Highlight the dual purpose of standard precautions: protecting patients and healthcare workers alike from the spread of infections, including Healthcare-Associated Infections (HAIs).

Tips for trainers

Engage participants by relating the topic to their work environments. Ask an open-ended question, such as: "What measures do you currently use in your workplace to prevent infections?"

Note: Encourage brief responses to establish a connection between the training content and their daily responsibilities.

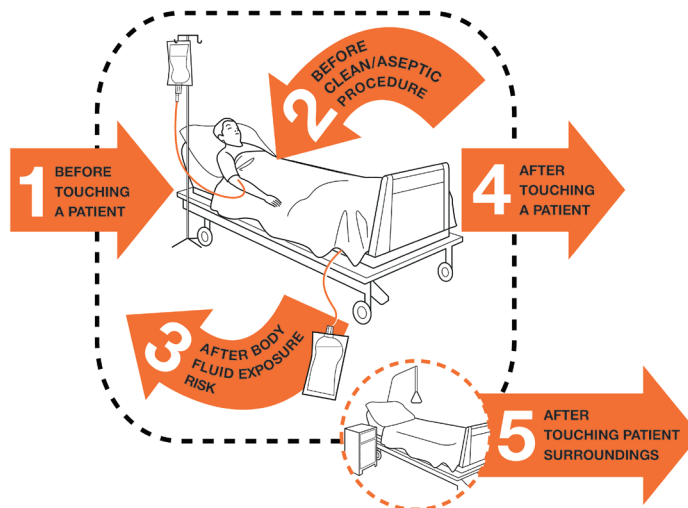
3.2. Overview of standard precautions (15 minutes)

Deliver a comprehensive yet concise presentation that covers the key components of standard precautions. Use a mix of visual aids, examples, and real-world scenarios to reinforce the learning points.

a) Hand hygiene

Reiterate the 5 Moments of Hand Hygiene as defined by WHO:

- Before touching a patient.
- Before a clean/aseptic procedure.
- After body fluid exposure/risk.
- After touching a patient.
- After touching patient surroundings.



Source: Guidelines on hand hygiene in healthcare. Geneva: World Health Organization, 2009.

Trainer's notes

Emphasise the importance of proper handwashing techniques in preventing the spread of infections.

Share a quick statistic or real-world example to underscore the impact of effective hand hygiene on reducing HAIs.

b) Respiratory hygiene and cough etiquette

Respiratory hygiene is a critical component of infection prevention and control (IPC) aimed at reducing the transmission of airborne infections, such as influenza, tuberculosis, and COVID-19. Many respiratory infections spread through droplets when an infected person coughs, sneezes, or talks. These droplets can contaminate surfaces or be inhaled by others, leading to outbreaks in healthcare settings.

- **Start with context:** Explain that respiratory hygiene is a critical component of infection prevention and control (IPC), particularly in preventing the spread of airborne infections like influenza, tuberculosis, and COVID-19.
- **Use evidence:** Cite examples or statistics, such as the proportion of respiratory diseases transmitted through droplets. Highlight how healthcare settings are high-risk environments for respiratory infection transmission.
- **Key concept:** Reinforce that respiratory droplets can travel short distances (1-2 meters) and contaminate surfaces, equipment, and people. Proper respiratory hygiene breaks this chain of infection.

Trainer's guide

This guide provides detailed explanations and tips for trainers to effectively communicate the importance of respiratory hygiene during cascading trainings. Each point is expanded to ensure trainers have the necessary resource material to educate participants confidently.

Covering the mouth and nose with a tissue or elbow when coughing or sneezing

- **Demonstrate:** Show how to cover the mouth and nose effectively using a tissue or by coughing/sneezing into the elbow.
- **Explain why it matters:**
 - Droplets expelled during sneezing or coughing can contain pathogens that infect others.
 - Using a tissue or elbow reduces the dispersion of droplets into the air.
- **Practical tip:** Encourage participants to carry tissues or always be mindful of coughing etiquette, especially in patient care areas.



Proper disposal of used tissues



- **Demonstrate the right way:** Use a tissue, dispose of it immediately in a waste bin with a lid, and follow up with hand hygiene.
- **Explain why it's important:** Used tissues harbour infectious agents that can spread if left in open spaces or handled carelessly.
- **Common mistakes to address:**
 - Reusing tissues or leaving them on surfaces.
 - Failing to wash hands after disposal.

Encouraging symptomatic individuals to wear masks and maintain physical distance

- **Discuss the role of masks:**
 - Explain how masks create a physical barrier that prevents droplets from being expelled into the air.
 - Highlight symptomatic individuals, even with mild symptoms, should wear masks to reduce the risk of transmission.
- **Demonstrate correct mask usage:** Show how to wear a mask properly, covering the nose and mouth, and emphasise avoiding touching the front of the mask.



- **Physical distance:**

- Reinforce the importance of maintaining a minimum distance of 1-2 meters between individuals in healthcare settings.
- Use practical examples of how to arrange waiting areas or consultation rooms to facilitate distancing.

Note: Stress the importance of educating both staff and patients about these practices.

Additional tips for trainers:

- Use visual aids, such as posters or videos, to demonstrate correct coughing and sneezing etiquette.
- Incorporate role-play exercises to allow participants to practise these behaviors.
- Share real-life scenarios where poor respiratory hygiene led to infection outbreaks, emphasising the need for strict adherence.
- Provide handouts summarising best practices for respiratory hygiene to reinforce learning after the session.

c) Safe injection practices

This session introduces healthcare providers to the critical importance of safe injection practices as part of Infection Prevention and Control (IPC). Unsafe injection practices are a significant cause of healthcare-associated infections, leading to the transmission of bloodborne pathogens such as Hepatitis B, Hepatitis C, and HIV. The aim of this session is to ensure participants can identify risks, apply safe injection techniques, and adopt measures to protect both patients and healthcare workers.

Guidance for trainers

Discuss the risks associated with unsafe injection practices, such as the spread of bloodborne pathogens (e.g., Hepatitis B, Hepatitis C, HIV).

Explain key principles of safe injection practices, including

- Always using single-use syringes.
- Properly disposing of needles in sharps containers.
- Avoiding needle recapping to minimise accidental injuries.



Note: Provide a brief demonstration or visual representation of safe injection techniques.

Scenario

A healthcare worker in a busy primary healthcare clinic is preparing to administer injections to multiple patients in the outpatient department. The clinic is short-staffed, and the worker is attempting to manage the workload quickly. Participants will observe or role-play actions and identify both safe and unsafe practices.

Trainer's notes

Key Points to emphasise:

Reiterate the dangers of needle reuse, improper disposal, and recapping to prevent bloodborne pathogen transmission and needle-stick injuries.
Encourage participants to report and address unsafe practices observed in their healthcare settings.

Facilitation tips:

Use role-play or scenario-based exercises to help participants understand practical challenges and solutions.
Incorporate videos or images that visually demonstrate correct techniques for better engagement.

d) Personal Protective Equipment (PPE)

This component of the session focuses on educating healthcare providers about the appropriate use of Personal Protective Equipment (PPE) to minimise the risk of infection during patient care. PPE serves as a critical barrier, protecting healthcare workers and patients from exposure to infectious agents. The session emphasises the selection, proper usage, and safe removal of PPE to ensure safety and prevent contamination.

Guidance for trainers

Trainers will outline the appropriate use of PPE, tailored to the level of exposure risk.

- Gloves for hand protection during direct patient care.
- Gowns for body protection against splashes or sprays.
- Masks and respirators for respiratory protection.
- Eye protection to guard against fluid splashes.



Note: Emphasise the correct sequence for donning and doffing PPE to prevent contamination.

Trainer's notes

Key points to emphasise

- The importance of selecting PPE based on the level of exposure risk.
- PPE is only effective if used and removed correctly—incorrect doffing is a major source of contamination.
- Reinforce the need for proper hand hygiene before and after PPE use.

Trainer's notes

Facilitation tips

- Use visuals, such as posters or videos, to demonstrate proper PPE use.
- Incorporate real-world scenarios (e.g., managing a patient with a contagious disease) to help participants understand when and how to use specific PPE.
- Encourage participants to ask questions about PPE-related challenges they face in their work settings.

e) Outbreak preparedness and response (20 minutes)

Equip medical officers (doctors) with practical skills and knowledge to implement effective IPC measures during outbreaks of vaccine-preventable diseases, ensuring efficient coordination and containment.

IPC measures during outbreaks

- Emphasise the heightened importance of strict IPC protocols during outbreaks of vaccine-preventable diseases, such as measles or polio.
- Discuss specific IPC strategies, including isolation, proper hand hygiene, and the use of PPE to prevent cross-contamination.



Effective communication and coordination

- Highlight the need for clear communication among healthcare teams, local authorities, and the community during an outbreak.
- Explain protocols for reporting cases, tracking disease spread, and collaborating with other public health entities.

Role of medical officers in disease prevention and control

- Doctors and medical officers play a vital role in identifying and managing infectious diseases, overseeing immunisation efforts, and ensuring infection prevention in healthcare settings. They educate patients and communities on disease prevention while staying vigilant against emerging health threats. By following updated medical guidelines and coordinating with public health authorities, they ensure timely interventions and reduce disease transmission, ultimately safeguarding community health.

3.3. Activity: IPC measures during vaccine-preventable disease outbreaks

Objective

Equip medical officers with practical skills to implement IPC measures effectively during outbreaks of vaccine-preventable diseases.

Steps

- **Discussion:** In small groups, analyse key IPC strategies such as patient isolation, strict hand hygiene, PPE use, and outbreak-specific protocols for diseases like measles, polio, or diphtheria. Discuss their role in preventing cross-contamination and ensuring patient and staff safety.
- **Case management & response coordination:** Simulate an outbreak scenario where medical officers lead response efforts, including early case identification, infection control measures, and coordination with public health teams for surveillance and containment.
- **Decision-making exercise:** In groups, assess the role of medical officers in outbreak management—rapid case identification, clinical management, immunisation strategies, and public communication to mitigate disease spread.
- **Debrief & reflection:** Discuss challenges faced during outbreaks, lessons learned from past experiences, and strategies to strengthen IPC adherence in real-world healthcare settings.

Trainer's notes

- Prepare outbreak scenarios that reflect local contexts to ensure relevance and engagement.
- Encourage creative problem-solving, emphasising practical, resource-sensitive IPC measures.
- Guide participants to consider ethical dimensions, such as balancing community safety with individual rights.
- Reinforce the importance of teamwork, timely communication, and adherence to IPC protocols.
- Use real-life examples of successful outbreak responses to inspire and provide context.

Session 4:

Bloodborne Pathogen (BBP) safety

Session introduction (5 minutes)

This session equips doctors with essential knowledge and strategies to prevent exposure to bloodborne pathogens (BBPs), such as Hepatitis B, Hepatitis C, and HIV, during healthcare procedures. It highlights the risks associated with handling blood and body fluids, emphasising safe practices like proper handling and disposal of sharps, use of Personal Protective Equipment (PPE), and adherence to infection prevention protocols. The session aims to ensure the safety of healthcare workers and patients by minimising the risk of BBP transmission.

Guidance for trainers

- Begin by explaining the concept of bloodborne pathogens and their relevance in healthcare.
- Highlight how BBP exposure occurs (e.g. needle-stick injuries, contact with infected blood or bodily fluids).
- Use real-world statistics or examples to emphasise the importance of BBP safety in infection prevention.

Session objectives

By the end of this session, participants will be able to:

- Understand the risks and transmission routes of bloodborne pathogens (BBPs), including Hepatitis B, Hepatitis C, and HIV.
- Learn strategies to minimise BBP exposure in healthcare settings.
- Identify and apply universal precautions to mitigate BBP-related risks.
- Implement safety protocols for handling sharp instruments and managing exposure incidents.

4.1. BBP Risks and prevention strategies (15 minutes)

To better understand the transmission routes and universal precautions for bloodborne pathogens (BBPs), trainers can use the following flowchart to help visualise the key concepts and strategies. This chart outlines the potential risks of BBPs in healthcare settings, the transmission routes, and the preventive measures that should be taken to protect both healthcare workers and patients.

BBP overview

Bloodborne pathogens (BBPs) such as Hepatitis B, Hepatitis C, and HIV pose significant risks to both healthcare workers and patients. These pathogens are transmitted through contact with infected blood or bodily fluids, which can lead to serious infections. As healthcare providers, it's essential to understand the prevalence and potential consequences of these diseases to emphasise the need for stringent infection prevention measures in clinical settings.



Transmission routes

BBPs are primarily spread through sharps injuries (e.g., needlestick or scalpel cuts), mucosal exposure (e.g., splashes into the eyes, nose, or mouth), or open wounds that come into contact with infected fluids. Trainers should stress the importance of vigilance when handling sharps, cleaning up bodily fluids, and maintaining proper personal protective equipment (PPE) to reduce the likelihood of exposure. It's crucial for healthcare workers to recognise these high-risk scenarios and take immediate action to protect themselves and their patients.



Universal precautions

Universal precautions are a fundamental aspect of infection prevention in healthcare settings. They involve treating all blood and bodily fluids as if they are potentially infectious, regardless of the patient's known health status. Trainers should emphasise the necessity of wearing appropriate PPE, following safe injection practices, and adhering to proper cleaning and disinfection protocols. By implementing these measures consistently, healthcare providers can significantly reduce the transmission of BBPs and ensure a safer healthcare environment for both staff and patients.



a) Preventive measures

- Proper handling and disposal of sharps using designated containers.
- Use of Personal Protective Equipment (PPE), including gloves and face shields.
- Immediate action after potential exposure (e.g., washing the area, reporting the incident).

b) Post-exposure protocols

Provide steps to follow in the event of exposure, such as reporting, testing, and prophylactic treatment.



Tips for trainers

- Demonstrate correct techniques for handling sharps and disposing of them in sharps containers.
- Use a step-by-step approach to show how to clean and cover exposure sites after an incident.
- Include examples of how to use PPE to prevent BBP transmission during high-risk procedures.

4.2. Group work: Scenario-based discussions (10 minutes)

Activity setup: Divide participants into small groups and provide the following scenario: “A nurse accidentally pricks her finger with a used syringe after administering medication to a patient. Discuss the immediate actions the nurse should take and the preventive measures that could have avoided the incident.”

Trainer’s guide: Encourage each group to analyse the scenario, focusing on:

- Immediate steps to minimise exposure risk.
- Long-term prevention strategies.
- Team responsibilities in managing the incident.

Important: Ask each group to present their solutions briefly, fostering collaborative learning.

Trainer’s notes

- Keep the session interactive by asking participants about their experiences with BBP safety.
- Reinforce the significance of adhering to universal precautions to prevent BBP exposure.
- Ensure that visual aids, such as infographics on BBP risks and prevention protocols, are available to enhance understanding.
- Highlight the importance of a non-punitive reporting system for exposure incidents to foster a culture of safety.

Session 5:

Introduction to IPC in surgery and invasive procedures

Infection prevention and control (IPC) in surgery and invasive procedures is a critical element of healthcare delivery. Surgical site infections (SSIs) can lead to severe patient outcomes, including prolonged hospital stays, increased medical costs, and even mortality. This session equips healthcare providers with essential infection control protocols to create a safer surgical environment and improve patient outcomes.

Participants will explore best practices, key components, and practical applications of IPC during surgery and invasive procedures.

Learning objectives

By the end of this session, participants will:

- Understand the principles of IPC in surgical and invasive settings.
- Identify key infection risks and mitigation strategies during surgical procedures.
- Learn the step-by-step protocols for maintaining sterility in surgical environments.
- Demonstrate proper use of personal protective equipment (PPE) in simulated surgical settings.
- Apply infection control measures in practice through role-play and scenario-based discussion.



a) Key components of the session for trainers

- **Surgical Site Infection (SSI):** SSIs occur when pathogens enter the body during or after surgery, leading to complications like delayed healing and systemic infections. They highlight the need for strict adherence to IPC protocols.
- **Aseptic techniques:** Focus on practices to prevent contamination during procedures, such as maintaining a sterile field and ensuring only sterilised equipment is used.
- **Team hygiene:** Emphasise the importance of surgical scrubbing, proper donning of sterile gowns, gloves, and masks, and maintaining a high standard of hand hygiene among all team members.
- **Instrument sterilisation:** Detailed processes for cleaning, disinfecting, and sterilising surgical tools to ensure they remain pathogen-free during use.

- **Environmental controls:** Implementing measures like maintaining controlled air flow, sterile operating rooms, and reducing unnecessary traffic to minimise contamination risks.

Discussion

- What are common challenges in maintaining sterility during surgery in your facility?
- How can we improve compliance with IPC protocols in surgical settings?
- Share examples of successful IPC measures in your practice.

b) Steps in IPC for surgery and invasive procedures

Preoperative preparation

Preparing the patient and environment for surgery is critical to minimising risks:

- Assess and address pre-existing infections or conditions that could increase susceptibility to SSIs.
- Use antiseptic solutions to prepare the surgical site, ensuring clean and infection-free skin before surgery.

Sterile field management

Maintaining sterility throughout the procedure requires vigilance and precision:

- Drape the patient appropriately to establish and protect the sterile field.
- Limit access to the operating room and minimise unnecessary movement to prevent air contamination.

Hand hygiene and surgical attire

The surgical team must adhere to strict hygiene protocols:

- Perform a thorough surgical scrub using approved techniques and solutions.
- Wear sterile gowns, gloves, masks, and face shields to prevent exposure to pathogens or contamination of the sterile field.

During the procedure

Active monitoring and consistent adherence to protocols are essential:

- Continuously monitor the sterile field for any potential breaches or contamination.
- Use instruments efficiently, ensuring that contaminated tools are safely removed or replaced without compromising the sterile field.
- Safely dispose of biohazard materials immediately to reduce the risks of infection or exposure.

Postoperative measures

Proper care after the procedure minimises infection risks for the patient and healthcare workers:

- Clean and disinfect the surgical site before applying the final dressing.
- Ensure all biohazardous waste, including used instruments and materials, is safely disposed of in compliance with protocols.

Important information for master trainers

Preoperative preparation: Use antiseptics like chlorhexidine for skin preparation; review the patient's medical history to mitigate infection risk.

Sterile field management: Use sterile drapes and minimise team movement in the operating room to preserve sterility.

Hand hygiene and surgical attire: Follow WHO's recommendations for surgical scrubbing and don PPE in the correct sequence to prevent contamination.

During the procedure: Replace compromised instruments immediately and maintain a clean workflow to prevent disruptions to sterility.

Postoperative measures: Handle all biohazard waste per institutional protocols to ensure environmental and personal safety.

Session 6:

Monitoring, sustainability and feedback techniques for IPC

Session objective

Equip trainers with the knowledge and skills to monitor IPC practices effectively, provide actionable feedback, and foster continuous improvement within healthcare facilities. This session emphasises the importance of monitoring in ensuring adherence to IPC protocols and improving healthcare outcomes.

6.1. Introduction: Importance of monitoring IPC (10 Minutes)

Monitoring IPC is a critical process that ensures healthcare workers consistently adhere to infection prevention protocols, safeguarding both patients and staff from healthcare-associated infections (HAIs). It helps identify gaps, measure compliance, and guide corrective actions, fostering a culture of accountability and continuous improvement in healthcare facilities.

Key points to discuss

Why monitoring matters

- Monitoring ensures adherence to IPC standards, reduces the risk of healthcare-associated infections (HAIs), and enhances patient and staff safety.
- It allows facilities to identify gaps, measure progress, and implement corrective actions.

Role of doctors in monitoring

- Trainers act as mentors and auditors, guiding healthcare workers in following IPC practices.
- Monitoring creates accountability and provides opportunities for targeted training and support.

Interactive question

- Ask participants: "What monitoring strategies are currently in place at your facility, and what challenges have you encountered?"
- Use responses to introduce the importance of structured monitoring.

6.2. Requirements for effective monitoring (10 minutes)

Effective monitoring of IPC requires clearly defined standards, trained personnel to conduct observations, reliable tools for data collection, and a system for regular feedback. These elements ensure accurate assessment, timely identification of issues, and implementation of improvements in infection control practices.

Components of an effective monitoring system

Standardised tools and checklists

- Ensure tools are simple, clear, and tailored to the facility's context.
- **Example:** WHO's hand hygiene observation form or PPE usage checklist.

Defined roles and responsibilities

- Assign specific monitoring tasks to designated staff members.
- **Example:** Infection Control Officers oversee compliance, while trainers mentor and correct behaviours .

Data collection and analysis

- Importance of recording observations consistently to identify trends and recurring issues.
- **Tools:** Digital apps, logbooks, or reporting software for easy documentation.

Actionable feedback mechanisms

- Providing clear, constructive, and actionable feedback after observations.

Continuous training

- Regular reinforcement of IPC protocols based on monitoring outcomes.

6.3. Monitoring techniques: Practical approaches (10 minutes)

Technique 1: Direct observation

What to monitor

- Hand hygiene compliance (5 Moments).
- PPE donning and doffing.
- Safe disposal of biohazard waste.



How to implement

- Use unobtrusive observation to prevent altered behaviour.
- Document findings in real-time using a checklist.

Technique 2: Spot audits

- Unannounced checks on IPC compliance in high-risk areas, such as surgical suites or isolation wards.

Technique 3: Staff and patient feedback

- Conduct short interviews to identify barriers to compliance.

Technique 4: Reviewing incident reports

- Analyse needle-stick injuries or breaches in IPC protocols to understand root causes.



6.4. Providing feedback: Constructive approaches (10 minutes)

Effective feedback in IPC monitoring is timely, specific, and balanced. It acknowledges strengths, addresses gaps with actionable recommendations, and encourages improvement by fostering a supportive and non-judgmental learning environment.

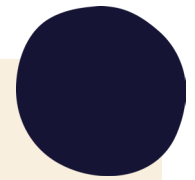
Steps for effective feedback

Timely and specific feedback

- Address the issue soon after observation to reinforce learning.

Balanced approach

- Start with positive feedback to acknowledge effort.
- Highlight areas for improvement.
- Provide clear, actionable recommendations.



Trainer's notes

- Familiarise with IPC monitoring tools and prepare practical examples for use during training.
- Keep sessions interactive, using real-world scenarios and encouraging experience sharing.
- Highlight the importance of constructive, non-punitive monitoring focused on improvement.
- Share templates for monitoring and feedback tools, and encourage trainees to adopt regular monitoring practices.

6.3. Sustainability of IPC practices (5 minutes)

Ensuring the sustainability of IPC practices at healthcare facilities is crucial for long-term infection prevention and control. While monitoring ensures adherence to standards, sustainability requires continuous commitment to maintaining IPC practices despite challenges such as resource limitations and staff turnover.

Key Points for sustaining IPC

- **Embed IPC into daily operations:** Make IPC practices an integral part of the daily routines in healthcare settings. Ensure all staff members understand the importance of these practices and are consistently encouraged to follow them.
- **Provide regular training:** Offer ongoing training and refresher courses to keep staff updated on the latest IPC standards and practices.
- **Foster a culture of accountability:** Encourage healthcare workers to take ownership of IPC and hold each other accountable for adhering to protocols. This can be reinforced through regular monitoring and feedback.
- **Ensure adequate resources:** Maintain a steady supply of necessary IPC materials, such as hand sanitisers, gloves, PPE, and cleaning supplies. Plan for backup resources and ensure they are consistently available.
- **Engage leadership and community support:** Health facility leaders must champion IPC practices and advocate for continued support and resources. Community involvement is also key to sustaining IPC in a public health setting.

Ask participants:

“What challenges have you faced in sustaining IPC practices at your facility, and how can these challenges be overcome?” This will help facilitate solutions that can be implemented within their own settings.

Conclusion of module 2

This module on Infection Prevention and Control (IPC) has been specifically designed to enhance the expertise of medical officers and doctors in implementing and teaching IPC practices as master trainers and practitioners. The training has provided a comprehensive understanding of essential IPC principles such as hand hygiene, safe injection practices, sterilisation and disinfection, waste segregation and disposal, and environmental hygiene. Through these topics, we have emphasised the critical role that doctors play in leading healthcare teams to prevent healthcare-associated infections (HAIs) and ensure the safety of both patients and healthcare providers in clinical settings.

This training has equipped you with the necessary skills to practise, mentor, and train other healthcare workers, fostering a culture of infection prevention across various healthcare settings. By focusing on evidence-based practices and strategies for overcoming challenges such as resource limitations and compliance gaps, you are now prepared to guide and support your teams effectively. As master trainers, you will be instrumental in promoting IPC practices within your facilities, improving patient safety, and advancing the overall quality of care. Through your leadership, we hope to see a positive, lasting impact on infection prevention and the reduction of HAIs within the healthcare environment.

Training module on IPC for EPI technicians / public health technicians

Module 3



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Abbreviations

- **ABHR:** Alcohol-Based Hand Rub
- **CDC:** Centres for Disease Control and Prevention
- **EPI:** Expanded Programme on Immunisation
- **FEFO:** First Expired, First Out
- **HAIs:** Healthcare-Associated Infections
- **HIV:** Human Immunodeficiency Virus
- **IPC:** Infection Prevention and Control
- **IV:** Intravenous
- **MMR:** Measles, Mumps, and Rubella (vaccine)
- **PPE:** Personal Protective Equipment
- **PHT:** Public Health Technician
- **UK:** United Kingdom
- **VVM:** Vaccine Vial Monitor
- **WHO:** World Health Organization

Introduction

Introduction of the module

Effective infection prevention and control (IPC) is crucial across all healthcare cadres to ensure the safety of patients, healthcare providers, and communities. IPC training tailored to specific cadres focuses on their unique roles and responsibilities, equipping them with practical skills and knowledge to prevent healthcare-associated infections (HAIs) and promote safe practices in their respective contexts.

This module provides essential Infection Prevention and Control (IPC) training tailored for EPI (Expanded Programme on Immunisation) Technicians and Public Health Technicians. Infection Prevention and Control (IPC) is a critical component of public health and immunisation programmes. This module is specifically designed to address the unique challenges faced by EPI (Expanded Programme on Immunisation) Technicians and Public Health Technicians in maintaining infection control during immunisation campaigns and routine activities.

Immunisation plays a pivotal role in reducing the burden of vaccine-preventable diseases, but it also involves potential risks of infection transmission if IPC measures are not strictly adhered to. Improper injection practises, inadequate waste disposal, or a lack of personal protective equipment (PPE) can lead to the spread of healthcare-associated infections (HAIs) and compromise the integrity of vaccination efforts. Therefore, understanding and implementing effective IPC measures are essential for ensuring the safety of both healthcare workers and the communities they serve.

This module provides EPI and Public Health Technicians with comprehensive knowledge and hands-on skills to implement IPC practices tailored to immunisation settings. Through interactive sessions, practical demonstrations, and scenario-based learning, participants will develop the confidence and competence needed to minimise risks and uphold the highest standards of hygiene and safety.

Learning objectives

- Provides IPC training for EPI and Public Health Technicians to ensure safe immunisation practices.
- Focuses on hand hygiene, safe injection techniques, and PPE use during vaccine administration.
- Emphasises cold chain management to maintain vaccine potency and safety.
- Covers waste disposal methods for syringes, vials, and other immunisation-related materials.
- Includes IPC strategies for outbreak scenarios, mobile clinics, and mass immunisation campaigns.



Agenda for IPC training for Health/ EPI technicians

Session	Activities	Duration
Welcome & opening	Formal welcome, introduction to training objectives and agenda, role of IPC in public health.	10 minutes
Session 1: How to conduct a training session	Introduction to effective facilitation techniques, engaging participants, and managing group dynamics.	30 minutes
Session 2: Role of health technician for IPC	Overview of general health principles, focusing on disease prevention, health promotion, and the public health technician's role in community well-being.	30 minutes
Session 3: Introduction to IPC in immunisation	Definition, importance, principles of IPC, and the burden of HAIs. Presentation and discussion.	30 minutes
Break		15 minutes
Session 4: Hand hygiene	Hands-on demonstration of WHO's 5 Moments, proper handwashing techniques.	20 minutes
Session 5: Use of PPE	PPE use and disposal include practical training on proper donning, doffing, and disposal of gloves, masks, gowns, and eye protection.	20 minutes
Session 6: Safe injection practises	Safe vaccine administration techniques, needle-stick injury prevention.	20 minutes

Session	Activities	Duration
Session 7: Immunisation safety and cold chain management	Importance of immunisation safety, What are the basic steps and protocols for cold chain management?	20 minutes
Session 8: IPC during health campaigns and immunisation days	Discussion on IPC challenges in campaigns, role-play exercises for IPC in outreach settings.	30 minutes
Break		20 minutes
Session 9: Waste management in immunisation settings	Demonstration of waste segregation, disposal protocols, and hands-on practice.	40 minutes
Session 10: Outbreak preparedness and response	Scenario-based exercises for IPC measures during disease outbreaks, group discussion.	40 minutes
Session 11: Monitoring and sustainability of IPC Compliance for public health/ EPI technician	Key principles of monitoring IPC practices with a focus on sustainability strategies to ensure long-term effectiveness and integration into routine workflows.	30 minutes
Conclusion & wrap-up	Summary of key learning points, participant feedback, Q&A, and formal closing.	15 minutes



Noreen Tahira, a 37-year-old nurse in charge at the Rural Health Center in Chak No 53/M, District Lodhran, Punjab Province, Pakistan. March 2024

Session 1:

How to conduct a training session for EPI technicians / public health technicians

To effectively conduct a training session for EPI or public health technicians, trainers should focus on aligning the session objectives with participants' roles in ensuring safe and effective practices. To effectively roll out the training session, trainers should begin the session by introducing the session objectives clearly, ensuring participants understand the relevance of the training to their roles in infection prevention and control (IPC). Establish a structured agenda, outlining the sequence of topics and activities, such as presentations, group discussions, and practical exercises. Start with participants' introduction, an engaging icebreaker or a brief discussion to connect the training content to participants' daily work experiences, emphasising its importance in enhancing healthcare safety and outcomes. Encourage active participation by setting expectations for interactive learning, including Q&A sessions and role-play activities.

Trainer's notes

- **Highlight relevance:** Emphasise the critical role of IPC in reducing healthcare-associated infections (HAIs) and ensuring patient and healthcare worker safety.
- **Clarify objectives:** Provide a brief overview of the session's goals, focusing on practical IPC measures such as hand hygiene, safe injections, and surgical site infection prevention.
- **Share agenda:** Outline the flow of activities and topics, including interactive discussions, demonstrations, and role-play exercises.
- **Engage with experience:** Begin with an icebreaker or discussion that connects IPC training to participants' real-life healthcare challenges.
- **Encourage participation:** Set expectations for active engagement through Q&A, group work, and hands-on exercises to reinforce learning.
- **Ensure preparedness:** Confirm that all necessary materials, such as handouts, training agendas, stationery, and group activity resources, are available.

Start with contextual engagement: Use an icebreaker or an open discussion to relate the training content to the technicians' day-to-day immunisation responsibilities. Highlight the importance of IPC in maintaining vaccine safety, preventing infection, and protecting public health.

Promote active participation: Foster collaborative learning by encouraging questions, role-playing scenarios, and group activities to simulate real-world immunisation challenges, such as maintaining the cold chain or handling waste disposal.

Utilise visual aids and demonstrations: Prepare visual tools like flowcharts, checklists, and props (e.g., syringes, vaccine vials, PPE) to clearly illustrate key IPC processes and reinforce understanding.

Organise materials in advance: Ensure all resources, including handouts, multimedia tools, and demonstration equipment, are ready for seamless delivery. Incorporate examples from fieldwork to ground concepts in practical reality.

Structure the module for independent learning: Introduce and thoroughly explain each topic, followed by hands-on practice and reflection, so participants leave with actionable skills and confidence.

1.1. Facilitation Skills to conduct Public Health Technicians/ EPI Technicians training (30 minutes)

Session objectives

Equip trainers with the skills to effectively train public health and EPI technicians on infection prevention and control (IPC) measures and practices.

By the end of this session, health technician/ EPI technician will:

- Develop core facilitation skills to engage and educate learners effectively.
- Understand the principles of adult learning and participatory training methods.

Trainer's guide

a) Introduction to facilitation skills (15 minutes)

Purpose

Enable health technician/ EPI technician to effectively convey IPC concepts to colleagues, clients, and community health workers.

Content

- **Engaging learners:** Share strategies to capture attention, such as storytelling, real-life examples, and using visual aids.
- **Encouraging participation:** Discuss ways to involve learners through open-ended questions, group activities, and sharing personal experiences.

- **Principles of adult learning:** Emphasise respect for adult learners' experiences, need for practical applications, and collaborative learning.

b) Core Facilitation Skills for Effective IPC Training (15 minutes)

Clear communication: Explain IPC concepts in simple terms, avoiding technical jargon, and use demonstrations to reinforce key messages.

Active listening: Show attentiveness to learners' concerns and experiences, using verbal and non-verbal feedback to encourage dialogue.

Adaptability: Modify teaching methods based on participants' prior knowledge and learning pace, ensuring clarity and comprehension.

Maintaining focus: Keep discussions aligned with training objectives, redirecting off-topic conversations while covering all essential IPC topics.

Organisational skills: Structure training sessions effectively, ensuring materials, demonstrations, and activities are well-prepared.

Public speaking: Use a confident and engaging approach to maintain learners' attention and encourage participation.

Analytical thinking: Assess understanding through questioning and observation, addressing gaps with additional explanations or activities.

Technical proficiency: Utilise digital tools, posters, and job aids to support IPC training and improve retention.

Creative teaching methods: Incorporate role-plays, case studies, and scenario-based exercises to make learning practical and engaging.

Interpersonal skills: Create a supportive learning atmosphere where participants feel comfortable asking questions and applying IPC principles.

Activity

Role-playing as facilitators:

Divide participants into pairs. One acts as a trainer, and the other as a learner. Use simple IPC topics like hand hygiene to practise facilitation techniques.

Feedback:

Provide constructive feedback, highlighting what worked and areas for improvement.

By the end of the session, EPI technicians and health technicians will be equipped with correct information and enhanced knowledge to implement robust IPC measures in their work, ensuring safer immunisation services and better health outcomes for the community.

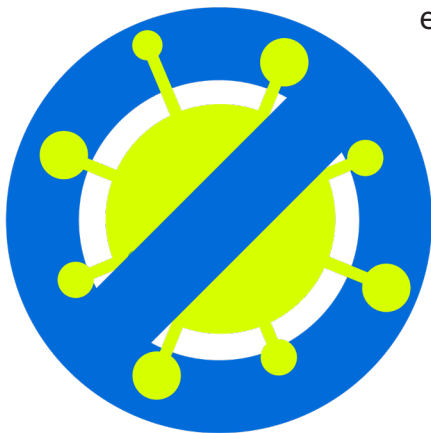
Session 2:

Role of health technicians in IPC

a) Overview of general health principles relevant to IPC

General health principles are the foundation of a resilient and sustainable healthcare system. These principles include personal hygiene, environmental cleanliness, safe water and food practices, proper waste management, and immunisation. In the context of IPC, adherence to these principles helps reduce the spread of infectious diseases within healthcare facilities and communities. Ensuring safe hand hygiene practices, implementing proper sterilisation techniques, and promoting sanitation are essential actions that public health technicians must emphasise. By understanding these core principles, public health technicians can better equip themselves to address infection risks effectively at basic health facilities.

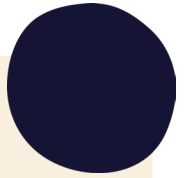
b) Importance of disease prevention and health promotion in community well-being



Disease prevention and health promotion are crucial for enhancing community health and reducing the burden of infectious diseases. Preventative measures, such as vaccination campaigns, hand hygiene education, and proper waste disposal, significantly decrease the prevalence of healthcare-associated infections (HAIs). Health promotion goes beyond prevention, aiming to empower individuals and communities with knowledge and tools to maintain good health. Public health technicians play a vital role in educating the public about these practices, creating awareness, and fostering a culture of health consciousness. Their involvement in outreach programmes ensures that the community adopts sustainable practices, leading to improved overall well-being.

c) Specific roles and responsibilities of public health technicians in IPC

Public health technicians are pivotal in implementing IPC measures at basic health facilities. Their responsibilities include maintaining hygiene and sanitation, supervising the proper disposal of medical waste, and ensuring adherence to IPC protocols. They are often the first line of defence in preventing infections by promoting routine practices like hand hygiene and respiratory etiquette among staff and patients. Public health technicians also support immunisation campaigns by ensuring safe injection practices and proper handling of vaccines. Additionally, they educate patients and caregivers on the importance of infection prevention, creating a ripple effect of health promotion within the community. Collaboration with other healthcare providers amplifies their impact and strengthens the overall IPC framework.



Trainer's notes

- Use relatable examples to explain hygiene, sanitation, and immunisation, emphasising consistent practices to reduce infection risks
- Discuss real-world scenarios of successful prevention measures and encourage participants to share their experiences
- Provide clear examples of IPC tasks like waste management, safe injection practices, and patient education.
- Start with an icebreaker question to foster engagement, such as, "What IPC practice do you think has the most impact?"
- Reinforce their critical role as a bridge between healthcare providers and the community, motivating them with the long-term impact of their work.
- Keep the session interactive, addressing challenges and brainstorming practical solutions together.

Session 3:

Introduction to IPC in immunisation (20 minutes)

This session is designed to provide EPI technicians and public health technicians with a clear understanding of Infection Prevention and Control (IPC) principles and their vital role in immunisation programmes. Given the high-contact nature of immunisation services, where needles, syringes, and vaccine administration are core activities, IPC becomes an essential safeguard. This session will explore the definition, significance, and practical applications of IPC to ensure a safe environment for both healthcare providers and vaccine recipients.

a) Definition of IPC and its importance for health technicians

- Infection Prevention and Control (IPC) comprises structured protocols and practices aimed at minimising the spread of infections in healthcare settings.
- IPC is essential for protecting healthcare workers, patients, and the broader community from healthcare-associated infections (HAIs).

Relevance in immunisation programmes

- Immunisation activities inherently involve procedures that carry infection risks, such as needle-stick injuries and exposure to bodily fluids.
- Effective IPC measures are critical for preventing the transmission of bloodborne pathogens, including Hepatitis B, Hepatitis C, and HIV.

Core IPC components in immunisation

- **Hand hygiene:** Proper handwashing or hand sanitisation before and after patient contact to prevent cross-contamination.
- **Personal protective equipment (PPE):** Correct usage of gloves and other protective gear to minimise exposure risks.
- **Safe injection practises:** Following aseptic techniques during vaccine preparation and administration to avoid contamination.
- **Waste disposal:** Ensuring the safe segregation and disposal of sharps and biohazard waste to prevent injuries and environmental risks.
- **Cold chain management:** Maintaining vaccine integrity by adhering to proper storage and transport protocols to ensure efficacy.

Note: To create a safe immunisation environment that minimises risks to both healthcare providers and recipients, reinforcing trust in public health programmes.

b) Impact of IPC on vaccine safety and public confidence

To train and equip health technicians with relevant knowledge and skills on their critical role in IPC and safeguarding vaccine safety and maintaining public trust in immunisation programmes. This session will focus on practical applications of IPC measures, real-world implications of lapses, and strategies for reinforcing safe practices during vaccine administration.

Vaccine safety

Maintaining sterility during vaccine administration and ensuring proper storage in the cold chain are crucial for vaccine efficacy. Any breach in safety can lead to infections, adverse reactions, or diminished effectiveness.

Public confidence

Unsafe practices erode trust in healthcare services. Communities are less likely to participate in immunisation programmes if safety concerns arise.

- **Community trust:** Unsafe injection practises or reports of infections can deter community participation in immunisation drives.
- **Overcoming vaccine hesitancy:** Stress the role of healthcare workers in reassuring the public about safety measures, especially during mass vaccination campaigns.
- **Media and public perception:** Address how even a single lapse can generate negative publicity, affecting nationwide immunisation efforts.

Broader implications

Lapses in IPC not only endanger individual health but also risk community-wide outbreaks, undermining national immunisation campaigns and healthcare budgets.

Sterility maintenance:

Discuss the importance of aseptic techniques during vaccine preparation, administration, and handling of injection equipment to prevent contamination.

Cold chain management:

Highlight the need for maintaining vaccines at recommended temperatures to preserve their potency. Use examples of temperature-sensitive vaccines like MMR or DPT.

Adverse outcomes of breaches:

Present case studies where IPC failures led to vaccine spoilage or infections, emphasising the human and financial costs.

Activity

Participants are divided into groups to simulate real-life vaccination scenarios, with roles as Vaccinator, Observer, Patient, and Facilitator. Scenarios include administering vaccines in crowded clinics, managing symptomatic patients, addressing cold chain breaches, and handling needle-stick injuries.

Each group applies IPC protocols like hand hygiene, PPE use, and waste disposal, while Observers note compliance using a checklist. Facilitators guide the activity, providing feedback on strengths and areas for improvement.

The session concludes with a debrief to reinforce best practices and solutions to common challenges, equipping participants to identify and address IPC risks effectively in real settings.

c) Common IPC Challenges in primary healthcare settings

- **Resource shortages:** Lack of essential supplies, such as gloves, sharps containers, and hand hygiene products, limits effective IPC practices.
- **Crowded campaign environments:** Immunisation in dense settings increases contamination risks and complicates adherence to IPC protocols.
- **Inconsistent practices:** Varying levels of training and awareness among healthcare staff lead to deviations from standard IPC guidelines, such as improper waste segregation or reuse of disposable items.
- **Cold chain maintenance:** The inability to maintain proper vaccine storage temperatures due to inadequate equipment compromises vaccine potency and safety.



Session objective

This session aims to identify common challenges in implementing Infection Prevention and Control (IPC) practices and encourage participants to develop practical solutions through group discussions and collaborative learning.

Activity steps

Introduction (5 minutes)

Begin by highlighting the importance of recognising and addressing IPC challenges in healthcare settings, such as immunisation campaigns or routine practices. Briefly explain that participants will work in groups to brainstorm real-world issues and practical strategies.

Group work (10 minutes)

Divide participants into small groups and assign them to discuss specific challenges they have experienced or observed. Provide prompts to guide their discussions, such as:

- Resource shortages, including gloves, sharps containers, and hand hygiene products.
- Crowded environments during campaigns, which increase contamination risks.
- Inconsistent IPC practices due to inadequate training or awareness.
- Cold chain maintenance issues affecting vaccine storage and potency.

Encourage groups to share examples from their experiences and consider solutions to overcome these barriers.

Group presentations (5 minutes)

Each group will briefly present one or two challenges they identified and propose practical strategies for addressing them.

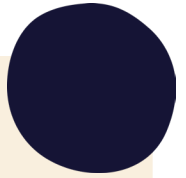
Facilitated discussion (5 minutes)

Summarise the group presentations and provide additional insights for each challenge:

- Highlight cost-effective strategies for managing resource shortages.
- Stress the importance of crowd control, proper PPE use, and team coordination in busy settings.
- Emphasise the role of regular training and checklists to address inconsistent practices.
- Discuss maintaining vaccine integrity through equipment maintenance and contingency planning.

Conclusion (5 minutes)

Wrap up by acknowledging the participants' contributions and reinforcing the importance of teamwork and resourcefulness in overcoming IPC challenges. Encourage them to apply these solutions in their healthcare settings and advocate for systemic improvements.



Trainer's notes

- Use real-life case studies to highlight the outcomes of effective and ineffective IPC practices in immunisation.
- Demonstrate key IPC steps using props like syringes, gloves, and vaccine vials to enhance visual and practical understanding.
- Engage participants by discussing challenges they face in maintaining IPC and encouraging solution-oriented dialogue.
- Utilise visual tools like flowcharts to illustrate the immunisation process with integrated IPC checkpoints.
- Focus on practical exercises and group activities to ensure participants can apply IPC knowledge confidently in their daily work.
- Emphasise the ethical responsibility of maintaining IPC to protect patient safety and foster trust within communities.

Session 4:

Hand hygiene (15 minutes)

This session will equip trainers with the knowledge and facilitation techniques to train health technicians and EPI technicians on the importance of hand hygiene, in preventing infections during patient checkups and immunisation activities. This session emphasises practical skills through demonstration and hands-on practice, ensuring participants are proficient in keeping hand hygiene as a key IPC measure.

4.1. Importance of hand hygiene in preventing cross-contamination

Content delivery (15 minutes)

Hand hygiene is the cornerstone of infection prevention and control, particularly in healthcare settings, including immunisation campaigns. Start the session by asking participants a question: “When do you think it’s most important to clean your hands during patient care?” Encourage a brief brainstorming discussion to engage participants and understand their current awareness. Highlight that hand hygiene is a critical component of Infection Prevention and Control (IPC) and emphasise its role in reducing healthcare-associated infections (HAIs). Introduce the WHO’s 5 Moments of Hand Hygiene as the gold standard for maintaining patient safety and preventing the spread of germs.



a) Before touching a patient

- Explain the importance of ensuring clean hands before any direct contact with a patient.
- Emphasise that this protects the patient from harmful germs that healthcare workers may carry on their hands from the environment or previous tasks.
- **Example:** Cleaning hands before measuring blood pressure, assisting with mobility, or taking a pulse.

b) Before a clean/aseptic procedure

- Highlight the need for performing hand hygiene before tasks that involve sterile procedures, such as inserting an IV, dressing wounds, or administering vaccines.
- Discuss how this step prevents introducing harmful pathogens into sterile areas of the body, reducing the risk of infections.

c) After Body Fluid Exposure/Risk

- Reinforce that hand hygiene must always follow exposure to bodily fluids, even when gloves are worn.

- Provide examples such as handling urine samples, cleaning wounds, or touching surfaces contaminated with blood.
- Stress that this protects healthcare workers and others from potential infections.

d) After touching a patient

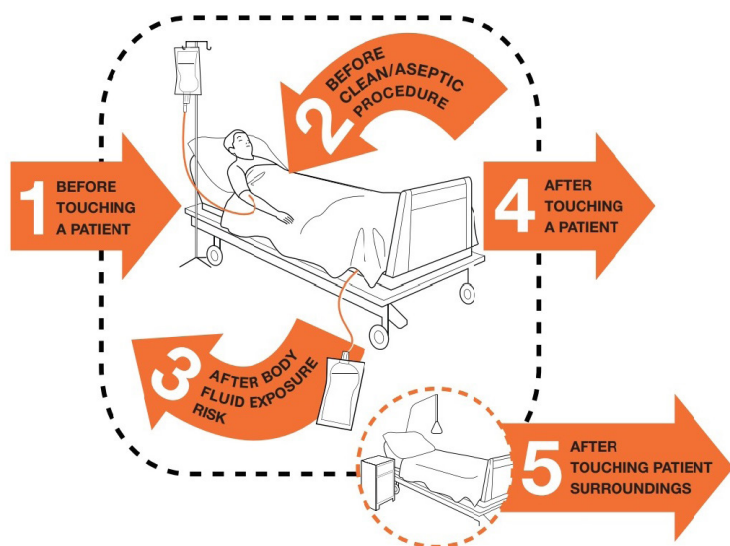
- Explain the necessity of cleaning hands immediately after any direct patient contact, such as physical examinations or providing care.
- Discuss how this step prevents the transfer of germs to other patients, healthcare workers, or the environment.

e) After touching patient surroundings

- Stress the importance of performing hand hygiene even when only the patient's surroundings (e.g., bed rails, medical equipment, or furniture) are touched.
- Explain that germs can survive on these surfaces and pose risks to others.

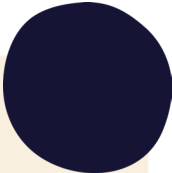
f) WHO's 5 Moments for Hand Hygiene:

- Before patient contact.
- Before aseptic tasks.
- After exposure to body fluids.
- After patient contact.
- After contact with the patient's surroundings.



For public health/EPI technicians, following these guidelines is critical in preventing cross-contamination during immunisation sessions, especially when working in community settings with limited resources. Emphasising hand hygiene as a habitual practice can significantly improve overall IPC outcomes in their roles.

Source: Guidelines on hand hygiene in healthcare. Geneva: World Health Organization, 2009.



Trainer's notes

- Explain how cross-contamination occurs during routine immunisation tasks, such as handling syringes or vaccine vials and interacting with multiple patients.
- Highlight the high-touch areas in immunisation clinics (e.g., chairs, tables, vaccine carriers) as potential sources of infection.
- **Share evidence:** Use statistics or case studies demonstrating reductions in infection rates with proper hand hygiene.

Practical exercise (15 minutes)

For public health and EPI technicians, this practice is critical as they frequently handle vaccines, needles, and other medical equipment, where even minor lapses can lead to contamination.

Key practices include

Handwashing with soap and water: Essential when hands are visibly soiled or after handling potentially infectious materials.

Step-by-step demonstration of proper handwashing technique

Key Concept: Reinforce the WHO's "5 Moments for Hand Hygiene" framework in immunisation settings:

- Before patient contact.
- Before aseptic tasks.
- After exposure to body fluids.
- After patient contact.
- After contact with the patient's surroundings.

Demonstration steps

- Wet hands with water and apply soap.
- Lather all surfaces of the hands, including between fingers and under nails.
- Scrub for at least 20 seconds.
- Rinse and dry hands thoroughly with a clean tissue or dry in the air.

Activity

The activity begins with the trainer showing a short instructional video that demonstrates the correct handwashing technique. The video emphasises essential steps such as scrubbing hands for at least 20 seconds, rinsing thoroughly with clean water, and drying with a clean towel or air dryer. Following the video, the trainer sets up a handwashing station equipped with soap, water, and an alcohol-based hand rub. Participants are invited to practise the demonstrated handwashing steps one by one. During this hands-on activity, the trainer observes each participant closely, providing real-time feedback and corrections. The trainer ensures participants focus on key aspects such as scrubbing between fingers, under nails, and around the wrists. The activity concludes with a brief recap of the importance of proper hand hygiene in infection prevention, encouraging participants to consistently apply the learned techniques in their work settings.

Use of Alcohol-Based Hand Rubs (ABHR)

Alcohol-based hand rub is the preferred choice for hand hygiene if hands are not visibly soiled, because ABHR is more effective in killing microorganisms than plain or antimicrobial soaps and water, and it has other significant advantages. The alcohol in ABHR kills microorganisms by denaturing proteins (i.e., they dissolve some microbe components). It also has persistent activity, meaning that it takes longer for microorganisms to repopulate the hands. Hand hygiene with ABHR has advantages over hand hygiene with soap and water, including:

- It takes less time—only 20 to 30 seconds. In a very busy work environment, ABHR can save you time!
- ABHR can be placed directly at the point of care, making it convenient and easy to perform hand hygiene within your clinical workflow.
- Hand hygiene with ABHR does not need sinks, water, or towels—hands are air dried.

It is important to note that the active ingredient—alcohol—is flammable and that you should be careful and make sure any ABHR is stored away from flames. The following images show the steps of how to use Alcohol-Based Hand Rub (ABHR) for hand hygiene.



Session 5:

Use of PPE (15 minutes)

For health technicians and EPI technicians, the proper use of Personal Protective Equipment (PPE) is critical to ensuring safety while conducting immunisation activities and handling vaccines. Unlike healthcare workers in hospitals who provide direct patient care, technicians in community settings can often maintain a safe distance to minimise exposure to infections. However, when close contact with individuals or potentially infectious environments is unavoidable, wearing appropriate PPE becomes essential.

The level of PPE required depends on the situation, ranging from basic items like masks and gloves for routine activities to additional equipment such as gowns and face shields for higher-risk scenarios. By adhering to proper PPE practices, health and EPI technicians can protect themselves and the communities they serve while maintaining safe and effective immunisation services.

5.1. Correct use of Personal Protective Equipment (PPE)

Overview

Personal Protective Equipment (PPE) is essential for healthcare workers, including public health technicians and EPI professionals, as it provides a critical barrier against infectious agents. This session aims to provide comprehensive training on the proper use, removal, and disposal of PPE to prevent self-contamination and maintain safety during immunisation activities.

Key concepts: What is PPE?

PPE includes gloves, masks, gowns, and eye protection designed to protect healthcare workers from exposure to infectious agents. Proper use of PPE is essential to safeguard both the worker and the patient.

Why is PPE important?

PPE reduces the risk of cross-contamination and ensures compliance with infection prevention standards, particularly in high-risk environments like outbreak immunisations or resource-limited settings.

Details on PPE use

- **Gloves:** Gloves are used during procedures like injections to prevent direct contact with bodily fluids or contaminated surfaces. They must be changed between patients to avoid cross-contamination.
- **Masks:** Masks should fully cover the nose and mouth. Once in place, they should not be touched to prevent contamination. Replace masks if they become damp or soiled.
- **Gowns and Eye Protection:** These are necessary in situations where splashes or sprays of bodily fluids are anticipated, such as during outbreak immunisations.

- **Disposal of PPE:** Used PPE must be disposed of in designated medical waste bins following waste management protocols to prevent environmental contamination and further infection risks.

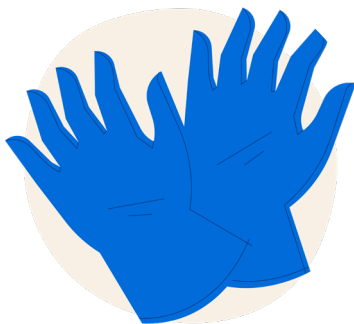
Wear the right PPE at the right time

- Wear a medical mask if you are in crowded places and cannot stay 1 meter away from people.
- Wear additional PPE only if you need to have direct physical contact with people.

How to put on and remove PPE

a) Gloves

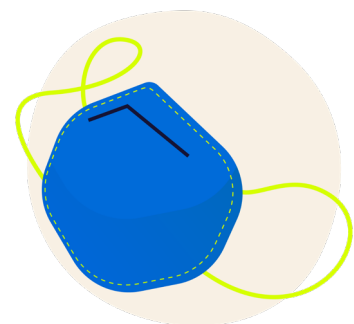
- **How to use:** Wash or sanitise hands before wearing gloves. Ensure they fit snugly and cover the wrist completely. Avoid touching your face or other surfaces unnecessarily.



- **How to remove:** Pinch the outside of one glove near the wrist and peel it off, turning it inside out. Hold the removed glove in your gloved hand and slide your bare fingers under the cuff of the remaining glove to remove it, avoiding skin contact with the outside.
- **How to dispose:** Discard gloves in a designated biohazard waste bin immediately after removal. Never reuse disposable gloves.

b) Masks

- **How to use:** Place the mask over your nose and mouth, securing it with ear loops or ties. Ensure a snug fit with no gaps and avoid touching the mask once it is on.
- **How to remove:** Untie or remove the ear loops without touching the front of the mask. Discard immediately.
- **How to dispose:** Place used masks in a sealed waste bag or biohazard bin. Wash hands immediately after disposal.



c) Gowns

- **How to use:** Wear the gown with the opening at the back and tie it securely at the neck and waist. Ensure it covers your body from neck to mid-calf.



- **How to remove:** Untie the gown at the neck and waist, then pull it away from your body, turning it inside out. Roll it into a bundle, touching only the inside of the gown.
- **How to dispose:** Place the gown in a biohazard waste bin. Wash hands thoroughly.

d) Face shields or goggles

- **How to use:** Position the shield or goggles securely over your eyes or face after putting on the mask.
- **How to remove:** Handle by the strap or edges, avoiding the front surface. Clean reusable goggles with disinfectant if applicable.
- **How to dispose:** Dispose of single-use shields/goggles in a biohazard bin.



Activity

The trainer will begin by demonstrating the correct steps for donning and doffing PPE, including gloves, masks, gowns, and eye protection. Key techniques will be highlighted, such as avoiding contact with potentially contaminated areas (e.g., the front of masks or gowns). Participants will then be divided into small groups and provided with PPE to practise the process step by step under the trainer's observation. Feedback will be given to correct improper techniques and reinforce best practices. After doffing, participants will be guided on proper disposal methods aligned with medical waste management protocols. The activity will conclude with a recap of the importance of PPE in preventing infections and an open discussion to address any questions or concerns.

Session 6:

Safe injection practises (20 minutes)

This session is designed to provide the trainers with the appropriate knowledge and tools required to effectively train health technicians on the principles of attending patients and safe injection practises. The focus is on ensuring that injections are administered safely to protect both healthcare providers and patients from potential risks, such as the transmission of bloodborne pathogens and needle-stick injuries. The session emphasises the importance of proper injection techniques, safe handling of needles and syringes, and adherence to waste disposal protocols to minimise hazards. Through demonstrations and interactive activities, participants will gain practical insights and facilitation skills to help health technicians adopt and implement these critical practices in their daily work, ensuring a safer and healthier environment for all.

a) Risks of unsafe injection practises

Unsafe injection practises pose a significant risk to both healthcare workers and patients, potentially leading to serious health complications, including the transmission of bloodborne diseases such as HIV, Hepatitis B, and Hepatitis C. Unsafe injection practises are often due to improper techniques, lack of proper disposal of sharps, reuse of needles and syringes, or inadequate infection prevention measures. These risks can lead to infections, increased healthcare costs, and the spread of contagious diseases within communities.

Key components of safe injection practises

- **Use of sterile equipment:** Always use single-use, sterile needles and syringes for every injection. This helps eliminate the risk of cross-contamination.
- **Proper injection techniques:** Ensure that injections are administered using the correct technique, which includes appropriate site selection, correct insertion, and ensuring that the injection is performed in a hygienic manner.
- **Safe disposal:** Dispose of needles, syringes, and other sharps immediately in puncture-resistant containers. This minimises the risk of needle-stick injuries that can expose workers and others to infectious materials.
- **Proper hand hygiene:** Healthcare workers must wash their hands thoroughly before and after giving injections to avoid contaminating the equipment or transferring pathogens to patients.
- **Preventing needle reuse:** Never reuse needles or syringes, and ensure that disposal is immediate and in a safe manner.

Why this is important

Unsafe injection practises are a leading cause of preventable disease transmission in healthcare settings. By adhering to safe injection protocols, healthcare workers can protect themselves and their patients from potentially life-threatening infections. This also helps in building trust with the community and reinforces the quality of care provided.

Activity

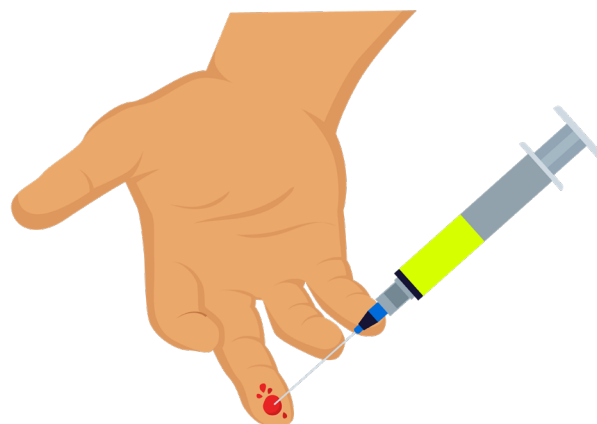
The trainer explains the importance of safe injection practices, highlighting common unsafe practices such as needle reuse and improper disposal, followed by a brief demonstration on proper injection administration, focusing on safety, hand hygiene, and disposal. Participants are then divided into pairs or small groups to role-play injection scenarios, practising safe procedures, including hand hygiene, sterile equipment handling, and proper needle disposal. After each role-play, the trainer provides feedback, emphasising areas for improvement. The session concludes with a reflection discussion on the risks of unsafe injections and personal experiences related to injection safety.

b) How to prevent risks associated with injections

Needle-stick injuries

Needle-stick injuries occur when a needle or other sharp object punctures the skin. These injuries can expose healthcare workers to bloodborne pathogens like Hepatitis B, Hepatitis C, and HIV. Beyond the risk of infection, needle-stick injuries can also have significant psychological effects, such as anxiety and stress, particularly regarding the potential transmission of serious diseases. The physical impact includes the risk of developing a life-threatening disease, which can have long-term health consequences.

Preventing needle-stick injuries is crucial, and healthcare workers must adhere to proper safety protocols, including the use of safety-engineered devices, safe disposal methods, and the correct handling of needles.



Cross-contamination

Cross-contamination occurs when syringes or needles are reused or improperly sterilised. This can lead to the transmission of infections between patients. Common infections transmitted through unsafe injection practises include bloodborne diseases such as Hepatitis B, Hepatitis C, and HIV, as well as other infectious diseases. The reuse of syringes or needles can significantly increase the risk of such transmission, making it imperative for healthcare providers to use new, sterile equipment for each patient and to dispose of used items safely. It is also important to follow strict infection prevention and control guidelines, ensuring that all injection equipment is properly sterilised or discarded after use.

Community impact

Unsafe injection practises not only put healthcare workers and patients at risk but can also have a lasting impact on the wider community. Repeated incidents of unsafe injection practises can erode public trust in healthcare systems and immunisation programmes. This can result in vaccine hesitancy, reduced participation in health programmes, and a general fear of seeking medical treatment. Communities may perceive these unsafe practices as evidence of negligence or poor care, which can discourage individuals from utilising healthcare services, ultimately undermining public health efforts. Therefore, adopting safe injection practises is crucial to maintaining community trust and ensuring the success of health programmes.

c) Use of single-use syringes and safe handling of sharps

Single-use syringes

Single-use syringes must never be reused, even if used for the same patient. Reusing syringes increases the risk of infection transmission, as pathogens may be carried over to subsequent patients or even the same patient if the syringe is contaminated. The reuse of syringes, needles, or other injection equipment can transmit serious infections, such as Hepatitis B, Hepatitis C, and HIV, among others. It is essential to stress that syringes and needles should always be disposed of immediately after use in a designated sharps disposal container to prevent the risk of reuse and ensure safety.

Safe handling of sharps

Proper handling of sharps, such as needles and syringes, is crucial to avoid injury and contamination. Always handle needles with extreme care to avoid needle-stick injuries, which can expose both healthcare workers and patients to bloodborne pathogens. Never pass sharps hand-to-hand; instead, use a designated tray or sharp disposal container for transporting used syringes and needles. Additionally, recapping needles should be strictly avoided. Recapping can result in accidental needle-stick injuries and the potential for exposure to bloodborne diseases. Sharps should be disposed of directly into puncture-resistant containers immediately after use, following correct protocols for safe disposal. These steps are crucial for minimising the risks associated with sharp injuries and ensuring a safe healthcare environment.

d) Safe disposal of needles in sharps containers

Proper disposal of used needles is crucial for preventing injury, reducing the risk of infection, and ensuring environmental safety. Inadequate disposal can lead to needle-stick injuries, contamination of the environment, and the spread of bloodborne pathogens. It contains the following steps:

Sharps containers

Sharps containers must be puncture-resistant, leak-proof, and clearly labeled with a biohazard symbol. Place them in accessible locations to encourage immediate disposal of sharp items, reducing the risk of needle-stick injuries.

Immediate disposal

Dispose of needles and sharps immediately after use. Avoid temporary storage to prevent accidental injuries and contamination.

Avoid overfilling containers

Never overfill sharps containers, as it increases the risk of spills and injuries. Replace containers before they reach full capacity.

Replacing full containers safely

Seal full containers securely, remove them safely, and replace with an empty container. Ensure new containers are always available at the point of use.

Practical demonstration: Safe injection techniques

Provide syringes, sharps containers, and a mannequin or simulation arm for practise.

Demonstrate proper technique for preparing and administering injections:

- Hand hygiene before and after the procedure.
- Using a sterile syringe and maintaining aseptic technique.
- Correct angle for intramuscular or subcutaneous injections.

Emphasise immediate disposal of the needle in the sharps container.

Important: Reinforce the non-negotiable use of single-use syringes and immediate sharps disposal.



Session 7:

Immunisation safety and cold chain management (15 minutes)

This session is designed with the knowledge and facilitation techniques required to train health technicians on immunisation safety and the essential role of maintaining the cold chain. It emphasises the critical importance of proper vaccine storage, adherence to cold chain protocols, and effective handling of breaches to safeguard vaccine potency. By ensuring vaccines are stored and transported under optimal conditions, health technicians can help prevent the loss of efficacy, maintain public confidence in immunisation programmes, and uphold safety standards. Through detailed discussions and hands-on activities, this session will guide health technicians in implementing these best practices in their day-to-day immunisation efforts.

a) Principles of vaccine storage and handling

Proper vaccine storage and handling are critical to ensuring the safety, potency, and efficacy of vaccines. Poor storage and handling practices can lead to the loss of vaccine effectiveness, resulting in decreased immunity in populations and erosion of public confidence in immunisation programmes. Below are key details about vaccine storage, cold chain maintenance, and their importance:

Key concepts

- Proper storage and handling of vaccines are essential to preserve their potency and ensure immunisation effectiveness. Vaccines are biological products that can be highly sensitive to temperature fluctuations, and improper storage can lead to a loss of efficacy, rendering them ineffective and unsafe for use.
- Vaccine storage involves maintaining vaccines at the correct temperature ranges specified by the manufacturer to prevent degradation. The cold chain refers to the system of storing and transporting vaccines within a specified temperature range, typically between 2°C and 8°C for most vaccines, from the manufacturer to the point of administration.

Cold chain maintenance

The cold chain ensures that vaccines are kept within this temperature range during transportation, storage, and handling, avoiding exposure to extreme heat or cold that could reduce their effectiveness. Properly maintained refrigerators and freezers, regular temperature monitoring, and backup systems in case of power failure are critical components of the cold chain.

- **Importance:** Maintaining the cold chain is vital for ensuring that vaccines retain their full potency until they are administered to patients.



A break in the cold chain—whether due to improper storage, delayed transportation, or equipment failure—can lead to vaccines becoming ineffective, resulting in potential public health risks. For this reason, health workers must be well-trained in vaccine storage, handling protocols, and the use of temperature-monitoring devices.

Temperature requirements

Most vaccines need to be stored at specific temperatures to maintain their effectiveness. Typically, vaccines should be kept in a refrigerator between 2°C and 8°C. However, some vaccines must be stored in a freezer at temperatures of -15°C or below. Exposure to temperatures outside these recommended ranges, whether too high or too low, can cause chemical and physical changes in the vaccine, rendering it ineffective or even unsafe for use. For example, if a vaccine like the MMR (measles, mumps, and rubella) is exposed to freezing temperatures, it may lose its potency, making it ineffective for immunisation.

Storage guidelines

To ensure the vaccines are stored correctly, it is important to follow specific storage guidelines. Vaccines should never be placed directly against the walls of the refrigerator or freezer, as these areas tend to be colder and can cause the vaccines to freeze, compromising their effectiveness. Instead, vaccines should be placed in the middle sections of the fridge to maintain a consistent temperature.

In addition, vaccines should be arranged systematically using the First Expired, First Out (FEFO) principle, ensuring that the vaccines with the earliest expiration dates are used first to minimise waste and ensure their potency is maintained. For example, if you have multiple vials of a vaccine, the ones expiring soon should be placed in the front of the storage unit to be used first.

Finally, diluents (liquids required for reconstituting vaccines) should always be stored alongside their corresponding vaccines to prevent mix-ups. For example, if the vaccine is the DTP (diphtheria, tetanus, and pertussis) vaccine, the diluent should be stored in the same location. This practice prevents confusion, ensuring that the correct diluent is used with the appropriate vaccine, maintaining safety and efficacy during vaccine administration.

b) Steps to maintain the cold chain during transport and storage

Maintaining the cold chain during vaccine transport and storage is critical to ensure the potency and effectiveness of vaccines. Any deviation from the recommended temperature range can reduce the vaccine's efficacy and may even render it ineffective, compromising the immunisation process and putting public health at risk. Below are the key steps to ensure the cold chain is maintained during transport and storage:

- **Use of refrigerated transport:** Vaccines should be transported in refrigerated vehicles, cool boxes, or containers that are specifically designed to maintain the required temperature range (2–8°C for refrigerated vaccines, -15°C or below for frozen vaccines). These transport vehicles should have built-in temperature control systems, such as refrigerated units or ice packs, to keep vaccines at the optimal temperature. If transporting frozen vaccines, ensure that dry ice or frozen gel packs are used to prevent thawing.

- **Monitoring and recording temperatures:** It is essential to use temperature monitoring devices (such as data loggers or thermometers) during transportation and storage to continually check that vaccines are being kept within the appropriate temperature range. Temperature records should be regularly reviewed to ensure that the cold chain is intact, and any temperature deviations should be addressed immediately.
- **Insulated packaging for storage:** Vaccines must be stored in insulated containers when transported or temporarily stored in locations where refrigerators may not be available. These insulated containers, such as coolers, should be packed with ice packs or gel packs to keep vaccines cool. It is crucial that the ice packs are properly placed around the vaccines, ensuring uniform cooling without causing the vaccines to freeze.
- **Transport time and route planning:** Minimise transport time and plan the route carefully to reduce the risk of exposure to temperatures outside the required range. Choose the shortest, safest route to maintain the integrity of the cold chain. Transport should also be timed to avoid long periods in non-refrigerated conditions, such as during the loading and unloading processes.
- **Store vaccines in a stable, controlled environment:** Upon arrival at the destination, vaccines should be transferred into well-maintained refrigerators or freezers that have been pre-cooled to the appropriate temperature. The storage area must be consistently monitored, and vaccines should be organised in a manner that allows for easy access and ensures the First Expired, First Out (FEFO) principle is followed. Additionally, staff should be trained to handle vaccines with care, following best practices for storage and preventing temperature fluctuations.
- **Handle with care:** Vaccines should never be exposed to direct sunlight or physical shock during transport. Handling the vaccines with care is crucial to prevent physical damage (such as breakage of vials) and to avoid compromising the cold chain through handling errors.

c) Recognising and addressing breaches in cold chain protocols

Recognising and responding to cold chain breaches is crucial for health technicians as they play a central role in vaccine safety. If a cold chain breach goes undetected, patients could receive ineffective vaccines, leading to outbreaks of preventable diseases and eroding trust in immunisation programmes. By identifying breaches early and taking immediate action, health technicians help ensure the safety and efficacy of vaccines, contributing to successful immunisation campaigns and better health outcomes for the community.

Recognising breaches

It is crucial for health technicians to consistently monitor the cold chain during vaccine storage and transport. The following signs indicate potential breaches in the cold chain:

- **Monitor temperature readings:** Health technicians must record and monitor vaccine storage temperatures daily. A sudden fluctuation outside the recommended range (e.g., below 2°C for refrigerated vaccines or above 8°C) indicates a potential breach. These records should be reviewed for any irregularities and addressed promptly.

- **Visible signs of freezing:** Certain vaccines, especially liquid vaccines, can show visible signs of freezing when exposed to temperatures below the required range. Crystallisation or ice crystals within the vaccine vial indicate that the vaccine has been exposed to freezing temperatures, which can render the vaccine ineffective. Technicians should regularly check for these signs when handling or inspecting vaccines.
- **Vaccine Vial Monitor (VVM):** The VVM is a colour-changing sticker that is placed on vaccine vials to indicate whether the vaccine has been exposed to temperatures above the recommended range. The colour of the VVM progresses from green to yellow as the vaccine is exposed to heat, signalling the need for careful assessment. A fully yellow VVM means the vaccine may have lost potency and should not be used.

Addressing breaches

Once a cold chain breach is identified, immediate action is necessary to prevent compromised vaccines from being administered:

- **Isolate suspected compromised vaccines:** Any vaccine that has been identified as potentially compromised should be immediately isolated from the rest of the stock. These vaccines should be clearly labelled as “Do Not Use” to prevent accidental use. This step is critical to ensure that patients are not exposed to ineffective vaccines.
- **Report the incident:** Health technicians must promptly report any breach to their supervisors or relevant authorities for further investigation. This ensures that the proper steps are taken to assess the extent of the breach and determine whether the compromised vaccines should be discarded or further evaluated.
- **Follow protocols for vaccine disposal or assessment:** Depending on the severity of the cold chain breach, vaccines may need to be disposed of according to local waste management protocols, or higher authorities may perform further assessments to determine if they can still be used safely. Adhering to these protocols ensures that compromised vaccines do not enter the vaccination programme, safeguarding public health.

***See page 109 for the “Group discussion: challenges in maintaining the cold chain” activity.**



Session 8:

IPC during health campaigns and immunisation days

(15 minutes)

This session is designed to with the expertise to train health technicians on Infection Prevention and Control (IPC) measures during mass immunisation campaigns and high-volume immunisation activities. It emphasises the critical importance of IPC practices to protect healthcare workers and communities from potential infection risks. Participants will explore common IPC challenges in resource-limited settings, such as overcrowding, limited supplies, and inadequate waste disposal, and learn practical strategies to address these barriers effectively. Through discussions and interactive exercises, this session equips trainers with the knowledge and facilitation skills to help health technicians implement safe immunisation practices, ensuring both the safety of vaccines and the prevention of healthcare-associated infections.

a) IPC challenges in crowded, resource-limited settings

The trainer will explore these key challenges and equip health technicians with practical strategies to manage IPC during health campaigns and immunisation days. The focus will be on maintaining a balance between effective patient care and robust infection prevention measures despite the logistical and resource challenges present in crowded, resource-limited settings.

- **Limited space for proper segregation of patient flow:** In crowded settings, managing patient flow is challenging, with the risk of cross-contamination when patients are in close contact. To minimise this risk, technicians must organise patient areas, creating clear pathways for entry and exit, and ensure high-risk individuals are separated from the general population.
- **Inadequate hand hygiene facilities:** The lack of sufficient hand hygiene stations in crowded settings increases the risk of infections spreading. Technicians should ensure hand hygiene stations are easily accessible at multiple points and make hand sanitisers or wipes available to all staff and patients involved in the campaign.
- **High turnover of patients leading to rushed procedures:** High patient volumes often lead to rushed procedures, increasing the chances of lapses in IPC protocols. Technicians must emphasise the importance of following safety measures, even under time pressure, and ensure sufficient time is allotted to each patient for proper hygiene practices.
- **Insufficient availability of PPE and waste disposal resources:** In resource-limited settings, the shortage of PPE and proper waste disposal facilities heightens the risk of infection. Technicians should maximise the use of available PPE, ensuring correct usage and disposal, while adhering to proper waste disposal protocols like puncture-resistant sharps containers.

b) Strategies to minimise infection risks during mass immunisation drives

The goal of minimising infection risks during mass immunisation drives is to ensure the safety of healthcare workers and the public. Proper planning and effective infection prevention and control (IPC) strategies are crucial to preventing the spread of infections in crowded, resource-limited settings. Below are key strategies to mitigate these risks.

- **Proper site organisation and patient flow management:** Clear zones should be established for waiting, vaccination, and recovery, with defined entry and exit points. Keeping high-risk individuals separate from others and organising patients into smaller groups will help reduce the risk of cross-contamination.
- **Effective hand hygiene and sanitisation:** Hand hygiene stations must be accessible to both healthcare workers and clients. Providing hand sanitisers, soap, water, and clean towels ensures frequent and proper handwashing to minimise the spread of infections before and after vaccinations.
- **Personal Protective Equipment (PPE) use:** PPE, including gloves, masks, and gowns, must be worn correctly and frequently changed. Ensuring that healthcare workers are properly trained in PPE usage helps protect both them and the community from potential infection.
- **Safe injection practices:** Use only single-use syringes and needles to avoid the spread of bloodborne pathogens. Proper disposal of used needles into puncture-resistant sharps containers is essential to prevent needle-stick injuries and infection transmission.
- **Vaccine storage and cold chain maintenance:** Vaccines must be stored within the recommended temperature ranges (2–8°C for refrigerated vaccines and -15°C or below for frozen vaccines). Proper monitoring of cold chain temperatures ensures vaccines remain effective throughout the immunisation drive.
- **Waste management and disposal:** Sharps containers should be available at all vaccination points to safely dispose of needles. Proper waste management prevents contamination and ensures that immunisation sites remain hygienic.
- **Training and monitoring of healthcare workers:** Continuous training is necessary to ensure healthcare workers understand IPC protocols and how to implement them effectively. Routine monitoring helps ensure compliance with safety measures and provides an opportunity for corrective action when needed.
- **Communication and public awareness:** Clear communication about hygiene, social distancing, and vaccination procedures ensures public participation and adherence to safety protocols. Public awareness campaigns can reduce confusion and enhance cooperation during the drive.



Trainer's notes

- Identify IPC challenges commonly encountered during health campaigns and immunisation days.
- Train PHTs to implement practical IPC strategies in crowded and resource-constrained settings.
- Facilitate hands-on practice sessions that empower PHTs to address real-world IPC issues effectively.
- Foster a proactive and adaptive approach to IPC in high-pressure immunisation environments.

Session 9:

Waste management in a healthcare facility setting (15 minutes)

This session aims to increase the knowledge of health technicians (PHTs)/ EPI on systematic handling, segregation, storage, and disposal of waste materials generated during healthcare activities, including immunisation drives. This includes medical waste such as used syringes, needles, vials, and personal protective equipment (PPE), as well as general waste from healthcare facilities. Proper waste management is essential to prevent contamination, reduce the risk of infections, protect the environment, and ensure the safety of healthcare workers and the community. Effective waste management protocols must be followed to minimise exposure to hazardous materials and comply with health and environmental regulations.

a) Proper segregation of medical waste

Effective segregation of medical waste is crucial for minimising infection risks and environmental damage, ensuring that each waste type is disposed of appropriately. Proper segregation ensures that dangerous materials like sharps and hazardous waste are handled and disposed of safely, reducing the risk of injuries and environmental contamination.

Types of medical waste in immunisation settings

- **Sharps:** Includes needles, syringes, and lancets, which can cause injuries or transmit infections.
- **Non-sharps hazardous waste:** Vaccine vials, ampoules, and any items that may contain or have been exposed to hazardous materials.
- **Non-hazardous waste:** Packaging materials, gloves, and other non-infectious items.



Segregation principles

- Use **colour-coded bins** (e.g., red for sharps, yellow for hazardous waste, black for general waste) to clearly identify and separate waste types.
- Ensure segregation is done at the **point of waste generation** to avoid cross-contamination.
- **Label bins clearly** to prevent mix-ups and ensure that waste is properly managed.



b) Safe disposal methods

Improper disposal of medical waste can lead to serious health and environmental hazards, affecting healthcare workers, patients, and the community.

Sharps disposal

- Use **puncture-proof sharps containers** to safely dispose of needles, syringes, and other sharp objects.
- **Never recap needles** before disposal to avoid accidental needle-stick injuries.
- Dispose of filled sharps containers at approved **incineration or autoclaving facilities** to eliminate potential hazards.

Vaccine vial disposal

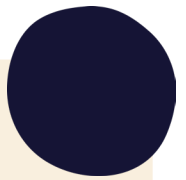
- **Crush or deface** vaccine vials to prevent any reuse or contamination.
- Dispose of them in **biohazard bins**, following specific protocols for safe disposal.

General waste

- Follow local guidelines for **non-hazardous waste disposal**. Items like packaging materials, gloves, and paper towels should be disposed of according to regulations.
- Ensure compliance with both **local and international waste management regulations** to prevent environmental damage and maintain public health safety.

c) Environmental hygiene in healthcare settings

- **Maintaining general hygiene:** Regular cleaning of surfaces, floors, and patient areas helps prevent the spread of infections.
- **Importance:** Proper hygiene practices are essential for reducing the risk of healthcare-associated infections (HAIs) and promoting a safe environment for patients and healthcare workers.
- **Waste segregation and disposal:** Segregating medical waste prevents cross-contamination, protects workers from injuries, and ensures that hazardous waste is treated appropriately.
- **Disposal:** Adhering to safe disposal methods reduces environmental contamination and prevents potential harm to the community from improper waste handling.



Activity: Waste segregation and disposal practices

Objective:

Equip participants with practical skills for proper segregation and disposal of medical waste in immunisation settings.

Execution:

Set up a mock immunisation site using materials like syringes, gloves, vials, and general waste. Provide colour-coded bins and sharps containers. Demonstrate the correct segregation process for each waste type, emphasising best practises such as avoiding overfilled sharps containers and ensuring proper labelling.

Session 10:

Outbreak preparedness and response (20 minutes)

Equip public health technicians with practical skills and knowledge to implement effective IPC measures during outbreaks of vaccine-preventable diseases, ensuring efficient coordination and containment.

a) IPC measures during outbreaks

- Emphasise the heightened importance of strict IPC protocols during outbreaks of vaccine-preventable diseases, such as measles or polio.
- Discuss specific IPC strategies, including isolation, proper hand hygiene, and the use of PPE to prevent cross-contamination.

b) Effective communication and coordination

- Highlight the need for clear communication among healthcare teams, local authorities, and the community during an outbreak.
- Explain protocols for reporting cases, tracking disease spread, and collaborating with other public health entities.

c) Role of EPI/public health technicians

- Describe responsibilities such as identifying suspected cases, supporting immunisation efforts, and educating the community on prevention.
- Reinforce the importance of remaining vigilant and adaptive to evolving situations.

10.1. Activity: IPC measures during vaccine-preventable disease outbreaks

Objective

Equip technicians with practical skills for implementing IPC measures during outbreaks.

Steps

- **Discussion:** In small groups, discuss IPC strategies (isolation, hand hygiene, PPE) during outbreaks like measles or polio. Share key points on their importance in preventing cross-contamination.

- **Role-playing:** Simulate an outbreak scenario where technicians, healthcare teams, and local authorities collaborate. Practice reporting, tracking, and containment.
- **Scenario problem-solving:** In groups, identify the role of public health technicians during an outbreak (case identification, immunisation support, community education).
- **Debrief:** Reflect on the learnt IPC measures and the technician's role in real-world outbreaks.

Trainer's notes

- Prepare outbreak scenarios that reflect local contexts to ensure relevance and engagement.
- Encourage creative problem-solving, emphasising practical, resource-sensitive IPC measures.
- Guide participants to consider ethical dimensions, such as balancing community safety with individual rights.
- Reinforce the importance of teamwork, timely communication, and adherence to IPC protocols.
- Use real-life examples of successful outbreak responses to inspire and provide context.



Handwashing station constructed by WaterAid in BHU Galleywal, District Lodhran, Punjab Province, Pakistan. March 2024

Session 11:

Monitoring and sustainability of IPC compliance (30 minutes)

Monitoring

Monitoring IPC (Infection Prevention and Control) compliance is a critical process to ensure that healthcare workers are consistently following established protocols during immunisation campaigns and healthcare activities. This session focuses on equipping public health technicians with the knowledge and tools to effectively monitor IPC practices, such as hand hygiene, vaccine storage, injection safety, and waste management. Monitoring helps detect potential breaches in protocols, correct unsafe practices in real time, and ensures that standards are upheld, ultimately reducing the risk of infections, improving the safety of immunisation procedures, and protecting both healthcare workers and the public. Continuous monitoring is essential to maintain high standards of practice, enhance the effectiveness of immunisation efforts, and prevent the spread of vaccine-preventable diseases.

a) Introduction to IPC monitoring tools

IPC monitoring tools, such as observation checklists and incident reporting templates, are essential for assessing adherence to infection prevention protocols. Feedback mechanisms provide continuous improvement by offering constructive guidance to healthcare workers. These tools ensure compliance and help identify and address any breaches promptly. It includes:

- Observation checklists.
- Incident reporting templates.
- Feedback mechanisms for continuous improvement.

b) Techniques for real-time IPC monitoring

Real-time monitoring involves observing practices like hand hygiene, vaccine storage, and waste segregation during immunisation campaigns. Healthcare workers should be observed regularly, and any deviations from protocols should be addressed immediately through coaching or direct feedback. This helps ensure safe practices and prevents infections. Its case observed through:

- Observing and documenting practices like hand hygiene, vaccine storage, waste segregation, and injection safety.
- Addressing gaps promptly through coaching and feedback during campaigns.



c) Practical application

Effective monitoring ensures consistent adherence to IPC measures, such as maintaining the cold chain and proper hand hygiene. Regular monitoring improves immunisation safety, protects healthcare workers, and boosts the overall success of campaigns. It should be continuous, with corrective actions taken as needed.

11.2. Designing an IPC monitoring checklist (15 minutes)

Objective

Enable participants to develop a practical tool for monitoring IPC compliance.

Steps

Provide blank templates and examples of IPC monitoring checklists.

Execution

- In small groups, participants identify key IPC areas to monitor, such as:
 - PPE usage.
 - Vaccine handling and storage.
 - Sharps disposal and waste management.
- Groups design a checklist tailored to immunisation campaign needs.
- Present and discuss checklists in plenary.

Important: Highlight the importance of simplicity, clarity, and relevance in a monitoring tool. Discuss strategies to implement the checklist effectively in field settings.

Trainer's notes

- Familiarise yourself with real-world examples of IPC challenges in immunisation programs to enhance relevance.
- Prepare checklists and visual aids to guide practical exercises and support learning.
- Engage participants by asking about their common IPC challenges during immunisation campaigns.
- Provide actionable feedback during role-playing and checklist creation activities, focusing on improvement.
- Emphasise the importance of IPC monitoring in ensuring safe, efficient, and trusted immunisation programs.

11.3. Sustainability of IPC at the facility level by health technicians

At the end of the Session, trainers will be able to equip health technicians to discuss and initiate practical steps for implementing and sustaining Infection Prevention and Control (IPC) measures at the facility level during routine activities and high-volume immunisation campaigns. Sustainability is a critical aspect of IPC, as consistent adherence ensures long-term protection against healthcare-associated infections (HAIs) and promotes community trust. Through discussions, practical exercises, and scenario-based activities, participants will learn how to overcome challenges and institutionalise IPC practices that can be sustained over time. This will enable health technicians to effectively safeguard the health of both patients and staff at the facility level, ensuring resilient and consistent IPC implementation.

The session highlights strategies for integrating IPC into daily operations, such as embedding IPC protocols into routine workflows, ensuring adequate and reliable supplies (e.g., gloves, hand hygiene products, sharps containers), and fostering a culture of safety and accountability within healthcare teams.

Participants will explore common challenges in sustaining IPC at the facility level, such as staff turnover, limited resources, and inconsistent enforcement of guidelines. Practical solutions will include:

- **Ongoing training and capacity building:** Providing regular refresher courses for staff to reinforce IPC practices.
- **Monitoring and feedback systems:** Establishing clear procedures for supervision and feedback to identify gaps and promote continuous improvement.
- **Resource management:** Ensuring timely procurement and proper stock management of essential IPC supplies to avoid shortages.
- **Leadership and advocacy:** Encouraging facility leadership to prioritise IPC and advocate for resources and support.
- **Community engagement:** Involving community stakeholders to reinforce compliance and accountability.

Incinerator constructed by WaterAid for burning the medical waste in Rural Health Center 53/M, District Lodhran, Punjab Province, Pakistan. March 2024



Conclusion of module 3

As we conclude Module 3 of Infection Prevention and Control (IPC) training for Public Health and EPI Technicians, we have covered essential skills needed to ensure the safety and success of immunisation programmes. You are now equipped with key practices in hand hygiene, safe injection protocols, waste management, and cold chain maintenance. These measures are vital in preventing infections, ensuring safe vaccine administration, and maintaining public trust in healthcare services. Your role is pivotal in protecting both patients and healthcare workers from the risks of cross-contamination and infection, and in supporting the broader goal of controlling vaccine-preventable diseases.

The knowledge and techniques you've learnt will be instrumental in your day-to-day work during immunisation campaigns. By leading by example, adhering to IPC protocols, and remaining vigilant in monitoring practices, you help improve the quality of immunisation services. Your commitment to these practices ensures safer healthcare environments, better immunisation outcomes, and the protection of communities. Thank you for your dedication to upholding IPC standards, and remember, your actions directly contribute to public health success.

***Activity - Group Discussion: Challenges in Maintaining the Cold Chain During Campaigns**

Scenario:

Divide participants into small groups to discuss challenges they face in maintaining the cold chain during outreach programs or mass immunization campaigns.

Facilitation:

- Encourage participants to share real-life examples of logistical, environmental, and equipment-related challenges.
- Brainstorm practical solutions and best practices for maintaining the cold chain under difficult circumstances.
- Assign a group representative to present findings to the entire group for collective discussion.

Training of Lady Health Visitors (LHVs) on Infection, Prevention, and Control (IPC)

Module 4



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Abbreviations

- **ABHR:** Alcohol-Based Hand Rub
- **HAIs:** Healthcare-Associated Infections
- **IPC:** Infection Prevention and Control
- **LHVs:** Lady Health Visitors
- **MNCH:** Maternal, Newborn, and Child Health
- **PPE:** Personal Protective Equipment
- **UK:** United Kingdom
- **UTI:** Urinary Tract Infection
- **WHO:** World Health Organization

Introduction

Introduction to the module

This Infection Prevention and Control (IPC) training module is specifically designed to equip Lady Health Visitors (LHVs) with the knowledge and practical skills necessary to implement robust IPC measures within healthcare facilities. As frontline healthcare providers in primary healthcare settings, particularly in birthing centres, LHVs play a vital role in ensuring the safety of mothers, newborns, and themselves.

IPC is critical in reducing healthcare-associated infections (HAIs) and preventing the transmission of pathogens in facility-based services, particularly in maternal, newborn, and child health (MNCH) care. This module addresses the unique challenges LHVs face in their daily responsibilities and provides evidence-based practises that promote safer healthcare environments.

The module offers a comprehensive approach, covering essential topics such as hand hygiene, safe injection practises, sterilisation, proper waste segregation and disposal, and environmental hygiene. It underscores the importance of maintaining high standards of cleanliness and infection prevention during childbirth and postnatal care.

The training also emphasises the critical role of LHVs in fostering a culture of safety within healthcare facilities, adhering to national and global health standards, and building patient trust. By the end of this module, LHVs will be well-prepared to implement and sustain IPC protocols, contributing to improved health outcomes and overall quality of care in primary healthcare settings.

Learning objectives

- Understand WHO's 5 Moments of Hand Hygiene and demonstrate proper techniques in healthcare settings.
- Identify and implement standard precautions to minimise infection risks in MNCH services.
- Practise safe injection techniques to prevent infections and needle-stick injuries.
- Recognise bloodborne pathogen risks and apply prevention strategies in routine healthcare practices.
- Apply IPC protocols in birthing centers and invasive procedures to maintain a sterile environment.
- Manage medical waste effectively, including proper segregation, disposal, and handling.



Agenda for IPC training for Lady Health Visitors (LHVs)

Session	Activities	Duration
Welcome & opening	Formal welcome, introduction to training objectives and agenda, role of IPC in public health.	10 minutes
Session 1: Introduction and expectations	Participant introductions, setting expectations, and workshop overview. Icebreaker activity.	30 minutes
Session 2: Facilitation skills	Principles of adult learning and facilitation methods. Engaging learners, group role-playing, and peer feedback	30 minutes
Pre-test	Pre-test on given forms by participants	15 minutes
Session 3: IPC in maternal healthcare	Understanding of IPC, overview of IPC in labour, delivery, and postpartum care. Presentation and discussion.	30 minutes
Session 4: Hand hygiene	Demonstration and practise of proper hand hygiene techniques.	20 minutes
Session 5: Proper use of PPE by LHVs	PPE use and disposal includes practical training on proper donning, doffing, and disposal of gloves, masks, gowns, and eye protection.	20 minutes
Session 6: Disinfection and sterilisation techniques	Different steps of Sterilisation. Role-play on sterile techniques in simulated scenarios.	20 minutes
Session 7: Respiratory hygiene	Demonstration and role-playing respiratory hygiene and cough etiquette practices.	20 minutes
Session 8: Waste segregation and disposal in maternity units	Practical exercise on waste segregation and disposal, including handling placentas and contaminated items.	15 minutes
Session 9: Environmental cleaning in maternity units	Group work: Develop cleaning protocols for delivery rooms.	25 minutes
Session 10: Monitoring and sustainability of IPC in maternal settings	Group work: Discussion on creating a monitoring checklist for IPC compliance and sustainability	20 minutes
Conclusion & wrap-up	Summary of key learning points, participant feedback, Q&A, and formal closing.	15 minutes

Tips for trainers

The training process is interactive and emphasises experiential learning. LHVs will engage in discussions, role-plays, demonstrations, and practical exercises, enabling them to contextualise IPC practices within their healthcare settings.

The session is designed to encourage active participation and foster confidence in implementing IPC strategies.

Doctors, as master trainers, will guide LHVs through these activities, ensuring concepts are well-understood and actionable in their local healthcare environments.

General guidelines for trainers/facilitators

To effectively conduct an LHV training session, master trainers should begin by clearly outlining the session objectives, ensuring participants understand the relevance of Infection Prevention and Control (IPC) in their daily healthcare roles. Establish a structured agenda that includes key topics, interactive discussions, and hands-on exercises to enhance engagement. Start with an icebreaker or a relatable discussion to connect the training content to real-life maternal and child healthcare scenarios, reinforcing its importance in improving patient safety.

Encourage active participation through Q&A sessions, group work, and role-playing activities to strengthen learning. Ensure all training materials—such as handouts, multimedia resources, and demonstration tools—are well-prepared and easily accessible to create a seamless learning experience. Deliver the module as a self-contained session, introducing, explaining, and reinforcing each concept through practical application, so participants leave with the knowledge and confidence to implement IPC effectively in their work.

- **Introduction of training objectives:** Begin the session by outlining the training objectives, emphasising the relevance of IPC to the LHV's roles and responsibilities.
- **Interactive approach:** Use a mix of presentations, role-plays, group discussions, and hands-on demonstrations to cater to different learning styles.
- **Relating to real-life context:** Encourage LHVs to share their experiences and challenges in infection prevention to create a learning environment rooted in practical application.
- **Facilitation skills:** Ensure the session remains interactive by involving all participants and addressing their questions or concerns.
- **Follow-up and reinforcement:** Provide take-home resources such as IPC checklists and protocols. Encourage LHVs to apply what they've learnt in their settings and share feedback during follow-up sessions.

Session 1:

Introduction and expectations

This session sets the foundation for the training by introducing participants to the objectives, structure, and key expectations of the module.

It provides an opportunity for Lady Health Visitors (LHVs) to share their experiences, align their learning goals, and establish a collaborative learning environment. By setting clear expectations and engaging in interactive discussions, this session ensures active participation and a focused approach to Infection Prevention and Control (IPC) practices throughout the training.

Session structure and key activities

a) Introduction and icebreaker (10 minutes)

Welcome participants and create a positive atmosphere with an engaging icebreaker such as “Share One Thing You Love About Your Work.”

Outline session objectives

- Introduce facilitation skills for IPC training.
- Promote interactive and collaborative learning.
- Set ground rules for respectful participation.



b) Establishing norms and expectations (5 minutes)

- Collaboratively set ground rules (e.g., punctuality, confidentiality, and mutual respect).
- Discuss challenges LHVs might face in facilitating IPC sessions and how to address them.

c) Pre-test administration

The session will conclude with a brief reflection, A pre-test will then be administered to assess participants' initial understanding of IPC principles and facilitation skills. The results will guide the training programme to address the group's specific needs and measure progress.

Session 2:

Facilitation skills

Learning objectives

- Understand the core principles of effective training facilitation.
- Learn how to engage and motivate participants through active listening and empathetic communication.
- Develop skills to create a conducive learning environment that encourages participant involvement and interaction.
- Master the techniques of guiding discussions, managing group dynamics, and addressing challenges during training sessions.
- Gain the ability to assess participant understanding and adjust facilitation techniques accordingly.
- Enhance skills in providing constructive feedback to improve participant learning and performance.



2.1. Introduction of the session

This session aims to equip Lady Health Visitors (LHVs) with essential facilitation skills to effectively conduct IPC training at their healthcare facilities. The focus is on helping LHVs become confident trainers who can engage colleagues in a meaningful way, communicate IPC concepts clearly, and foster collaborative learning environments.

The session will guide participants through key facilitation techniques, establish mutual expectations for learning, and introduce practical strategies to overcome challenges in healthcare training settings. With a focus on IPC, this session will help LHVs contribute to the safe delivery of maternal, newborn, and child health services.

Core facilitation skills for LHV training

Effective facilitation is key to ensuring Lady Health Visitors (LHVs) understand and apply Infection Prevention and Control (IPC) practices. Strong facilitation skills enhance learning, engagement, and practical application.

- **Communication skills:** Explain IPC concepts clearly in simple language, using relatable examples to help LHVs apply them in patient care.
- **Active listening:** Encourage LHVs to share experiences and concerns while using verbal and non-verbal cues to show attentiveness and build trust.

- **Adaptability:** Adjust training methods based on participants' knowledge levels, using demonstrations or discussions to reinforce learning.
- **Maintaining focus:** Keep discussions aligned with objectives, redirecting off-topic conversations while ensuring all key content is covered.
- **Organisational skills:** Plan sessions effectively, ensuring materials are prepared and activities are well-structured for smooth delivery.
- **Public speaking:** Engage participants with clear communication, confidence, and interactive discussions to maintain attention.
- **Analytical skills:** Assess participants' understanding through questions and demonstrations, addressing gaps where needed.
- **Technical proficiency:** Use visual aids and digital tools effectively to enhance training and reinforce key IPC messages.
- **Creative thinking:** Incorporate role-playing, storytelling, and hands-on activities to make IPC training practical and engaging.
- **Interpersonal skills:** Foster a supportive and inclusive environment that encourages participation and confidence in IPC practices.

By developing these skills, trainers can empower LHVs to implement IPC effectively in their healthcare settings.

Activity

Role-playing as facilitators:

Divide participants into pairs. One acts as a trainer, and the other as a learner. Use simple IPC topics like hand hygiene to practice facilitation techniques.

Feedback:

Provide constructive feedback, highlighting what worked and areas for improvement.

Session 3:

IPC in maternal health and care

3.1. Introduction to the session (15 minutes)

To emphasise the critical role of Infection Prevention and Control (IPC) in maternal healthcare, safeguarding mothers, newborns, and healthcare providers during antenatal, labour, delivery, and postnatal care.

Session structure

Defining IPC in maternal care

IPC encompasses a set of measures designed to prevent infections in maternal healthcare. Its application is crucial during antenatal checkups, labour, delivery, and postpartum care to minimise risks to both mothers and newborns.



Significance of IPC during antenatal care

Infection risks during pregnancy include urinary tract infections, sepsis, or other maternal infections that may affect the fetus. IPC measures in antenatal care involve proper hand hygiene, sterilisation of equipment for routine examinations, and safe disposal of biological waste.

Key challenges in maternal healthcare settings

Common challenges in preventing infections during delivery and postpartum care, include maintaining aseptic conditions in facilities, limited resources in primary care settings, and limited capacity of the staff.

PPE for LHVs in maternal care

Personal Protective Equipment (PPE) is essential for LHVs to ensure the safety of mothers, newborns, and healthcare providers. Proper PPE use minimises infection risks across all stages of maternal care, including antenatal visits, delivery, and postnatal checkups.

Role of LHVs in maternal IPC

LHVs play a pivotal role in monitoring and implementing IPC protocols at healthcare facilities. This includes ensuring proper sanitation during prenatal checkups, maintaining aseptic techniques during deliveries, and educating mothers on hygiene practises during postpartum care.

Monitoring and sustaining IPC practices

Continuous monitoring of IPC practices ensures consistent implementation and helps identify gaps. This includes observing hand hygiene, proper sterilisation of tools, waste disposal, and environmental cleanliness during maternal healthcare delivery. LHVs must also engage in patient education to sustain IPC practices beyond the healthcare setting.

3.2. Group work activity (15 minutes)

Activity title

Identifying and improving IPC practices in maternal care.

Instructions

- Divide participants into small groups and assign each group a specific stage of maternal care (antenatal, labour and delivery, or postnatal).
- Ask groups to identify three key IPC challenges they face in their assigned stage of care and propose practical solutions to overcome them.
- Each group will present their findings briefly, fostering a discussion to share best practises and address common challenges.
- This group work encourages peer learning and allows participants to reflect on and improve their current IPC practices in maternal healthcare.

3.3. IPC in antenatal and postnatal care (30 minutes)

Infection Prevention and Control (IPC) is a critical component of maternal healthcare, especially during antenatal and postnatal care.

During these stages, mothers and newborns are vulnerable to infections, which can lead to complications such as sepsis, UTI, mastitis, or newborn infections. By applying IPC measures, LHVs can create a safe environment that minimises these risks while delivering high-quality care.

3.4. Infection risks in antenatal and postnatal care (5 minutes)

Discussion points

Antenatal care risks

- Contaminated equipment during ultrasound or physical examinations.
- Poor hand hygiene or inadequate PPE use during routine checkups.
- Transmission of infections during invasive procedures like blood draws.

Postnatal care risks

- **Maternal risks:** Wound infections after delivery (e.g., perineal tears, cesarean sections), mastitis from improper breastfeeding practices.

- **Newborn risks:** Infection from improper handling, unclean surfaces, or contaminated feeding equipment.
- **Trainer instructions:** Use real-life examples to explain these risks and ask participants to share observations from their work.

3.5. Strategies to minimise infection risks (10 minutes)

Key strategies for antenatal care

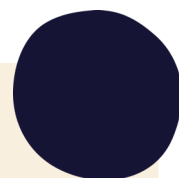
- **Hand hygiene:** Emphasise WHO's 5 Moments of Hand Hygiene, particularly before and after patient contact.
- **Surface disinfection:** Ensure clean and disinfected examination areas.
- **Use of PPE:** Gloves, masks, and gowns during any invasive procedures.



A nurse checking the blood pressure of the patient in hospital. January 2025

Key strategies for postnatal care

- **Wound care:** Proper cleaning and dressing of postpartum wounds to prevent infection.
- **Breastfeeding support:** Educate mothers on proper latching techniques and hygiene to avoid mastitis.
- **Safe newborn handling:** Demonstrate techniques for safe and hygienic handling of newborns, including proper umbilical cord care.



Scenario based learning activity

Sakina, a pregnant woman, visits a rural health center for antenatal care. The LHV doesn't wash hands before the examination, reuses the blood pressure cuff without cleaning, and overlooks Sakina's swollen episiotomy wound from her last delivery.

Activity:

- **Group discussion (10 minutes):** Identify IPC gaps (e.g., lack of hand hygiene, unclean equipment, missed postnatal care).
- **Problem-solving (10 minutes):** Brainstorm solutions like hand hygiene, equipment disinfection, and wound care education.
- **Role-play (10 minutes):** Practise corrected IPC measures in a simulated scenario.
- **Debrief (5 minutes):** Share key takeaways and emphasise IPC's role in safe maternal and neonatal care.
- **Outcome:** Participants will develop a practical understanding of how to integrate IPC principles into MNCH care, improving the quality and safety of antenatal and postnatal services.

Session 4:

Hand hygiene

4.1. Hand hygiene in maternal care (20 minutes)

This session will help trainers deliver an effective hand hygiene session tailored for Lady Health Visitors (LHVs) working in maternal health and labour/delivery settings. The narrative structure ensures ease of understanding and application during the session.

a) Introduction (5 minutes)

Start by welcoming participants and highlighting the importance of hand hygiene in healthcare, particularly in maternal health and delivery contexts. Discuss:

- **Why hand hygiene matters:** Emphasise its role in preventing infections in mothers and newborns.
- **Key risks:** Highlight how improper hand hygiene can lead to contamination during labour, delivery, and neonatal care.
- **WHO's 5 moments for hand hygiene:**
 - Before patient contact.
 - Before clean/aseptic procedures.
 - After exposure to bodily fluids.
 - After patient contact.
 - After touching patient surroundings.

Reinforce that these practices are non-negotiable in ensuring patient safety and reducing healthcare-associated infections (HAIs).

a) Step-by-step handwashing technique (10 minutes)

Begin with a clear explanation of the handwashing process, emphasising why each step is essential. Use a sink and soap for a live demonstration as you narrate:

Wet hands thoroughly with water

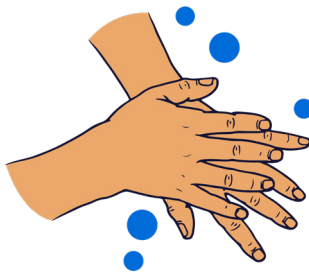
Explain that wetting hands prepares the skin for soap and ensures full coverage.

Apply soap and rub palms together

- Show how to use a small amount of soap, rubbing palms to create a good lather.



- Highlight that soap helps lift dirt, grease, and germs from the skin.



Rub the back of each hand and between fingers

- Demonstrate interlacing fingers to clean between them thoroughly.
- Point out that these areas are commonly missed.



Focus on thumbs and fingertips

- Show how to encircle thumbs with the opposite hand and clean fingertips by rubbing them on the opposite palm.
- Stress that these are high-contact areas often overlooked.



Rinse thoroughly with running water

Explain that leaving soap residue can cause irritation and isn't hygienic.

Dry hands with a tissue or an air dryer

Emphasise the need for completely dry hands to prevent bacterial growth.

Tips for trainers

- Use posters or visual aids to reinforce each step.
- Repeat the steps slowly and encourage participants to observe closely.

Highlight that consistent hand hygiene is essential even in resource-constrained environments. Alcohol-based hand rubs can be a practical alternative when soap and water are unavailable, but visible dirt must be removed first.

Activity

Demonstrate step-by-step handwashing and alcohol-based hand rub techniques using visual aids. Trainer will facilitate group practice with feedback on participants' techniques.

Session 5:

Proper use of PPE for LHVs

(15 minutes)

5.1. Importance of PPE in maternal and community healthcare

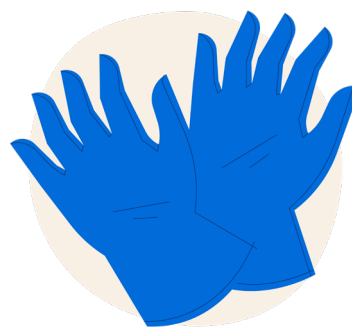
Personal Protective Equipment (PPE) is essential for Lady Health Visitors (LHVs) to protect themselves and their patients from infections, especially during maternal care and immunisation activities.

Proper use of PPE minimises the risk of cross-contamination and ensures safe healthcare delivery. The level of PPE required depends on the situation, from basic protection like masks and gloves to full gowns and eye protection in high-risk settings.

a) Correct use of PPE

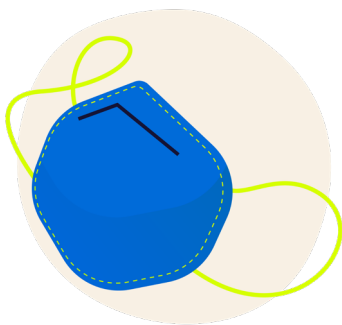
Gloves

- Wear during procedures like injections, wound care, and delivery assistance.
- Change between patients and after handling bodily fluids.
- Remove properly by peeling inside out and discard in a biohazard waste bin.



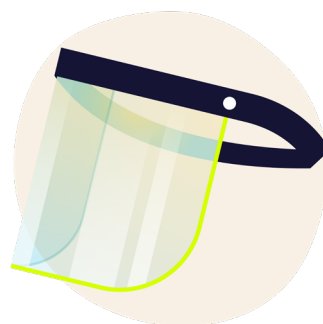
Masks

- Wear masks when in close contact with patients, especially in crowded areas.
- Cover the nose and mouth completely, avoiding unnecessary adjustments.
- Dispose of properly after use to prevent contamination.



Gowns and eye protection

- Use during delivery assistance and any other surgical procedure.
- Use when there is a risk of splashes or direct exposure to bodily fluids.
- Remove carefully by rolling inside out and discard in a designated waste bin.



b) How to put on and remove PPE

- **Before wearing PPE:** Wash or sanitise hands properly.
- **While using PPE:** Avoid touching the face, mask, or outer surfaces of gloves and gowns.
- **Removing PPE:** Take off carefully, avoiding contact with contaminated areas.
- **Disposal:** Dispose of all used PPE in a biohazard bin and wash hands immediately.

By following proper PPE guidelines, LHVs can ensure safe maternal and child healthcare practices, protect themselves from infections, and maintain infection prevention standards in their communities.



A doctor carefully taking the gloves off after performing surgery in the hospital. January 2025

Session 6:

Disinfection and sterilisation during maternal and child health care (20 minutes)

Contaminated medical and surgical devices may serve as vehicles for the transmission of infection, both to patients and healthcare workers. Therefore, decontamination of items and equipment is essential. The decontamination process encompasses the entire process, including cleaning, disinfection, and sterilisation.

Cleaning

It is the first step required to physically remove contamination by foreign materials, e.g. dust and soil. It also removes organic materials, such as blood, secretions, excretions, and microorganisms, to prepare a medical device for disinfection or sterilisation.

Disinfection

It is the process of reducing the number of viable microorganisms to a less harmful level. This process may not, however, inactivate bacterial spores, prions, and some viruses.

Sterilisation

It is a validated process used to render an object free from viable microorganisms, including viruses and bacterial spores, but not prions.

Disinfection and sterilisation are key elements during maternal and child healthcare, this helps to eliminate all microorganisms from the delivery environment and equipment, significantly reducing infection risks to mothers and newborns. Proper disinfection and sterilisation practices also safeguard healthcare workers from exposure to harmful pathogens.

Sterile techniques refer to a set of practices used to eliminate all microorganisms from the delivery environment and equipment to prevent infections. This includes using sterilised tools, maintaining a sterile field, and adhering to strict hand hygiene and PPE protocols during delivery procedures.

6.1. Key sterilisation methods

Sterilisation is a critical component of infection prevention and control (IPC) in maternal healthcare.

This guide outlines the sterilisation methods and practices that trainers must understand and convey effectively to trainees.



By mastering these techniques, LHVs can ensure a sterile environment during labour and delivery, minimising infection risks for mothers, newborns, and healthcare providers.

a) Instrument cleaning (Pre-sterilisation step)

Before any sterilisation method is applied, all instruments must be thoroughly cleaned to remove blood, body fluids, and organic material. This ensures effective sterilisation and prevents damage to equipment.

Process

- Wear gloves and protective gear before handling contaminated instruments.
- Rinse instruments with cold or lukewarm water to remove visible contaminants.
- Scrub with a brush and detergent or enzymatic cleaner to clean all surfaces, especially joints and hinges.
- Rinse thoroughly with clean water.
- Dry instruments completely with a clean, lint-free cloth or allow to air dry before packaging or placing in a steriliser.

Practical exercise: Peer review activity (10 minutes)

Activity instructions:

- Divide participants into pairs.
- One participant demonstrates respiratory hygiene practices in a real-life maternity setting scenario, such as assisting a coughing patient during labour or in a postnatal ward.
- The other participant acts as an observer, providing feedback on the demonstration based on clarity, empathy, and adherence to IPC guidelines.

Feedback session:

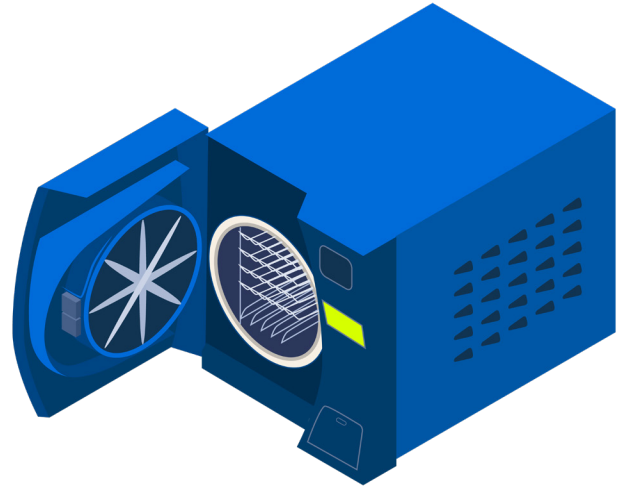
- Encourage participants to focus on both strengths and areas for improvement in their peer's approach.
- Trainers facilitate the discussion, reinforcing the importance of respiratory hygiene in protecting vulnerable populations.

b) Autoclaving

Autoclaving is the most reliable method of sterilising heat-resistant instruments and materials. It uses high-pressure steam to kill all microorganisms, including spores.

Process

- Ensure instruments are thoroughly cleaned to remove visible dirt or organic material before autoclaving.
- Place instruments in sterilisation pouches or trays, ensuring proper spacing for steam circulation.
- Set the autoclave to the correct temperature (121–134°C) and pressure (15–20 psi), and run the cycle for the recommended time (usually 15–30 minutes).
- Use chemical or biological indicators (e.g., sterilisation tape) to verify the effectiveness of the cycle.



c) Chemical disinfection

This method is used for heat-sensitive instruments, such as endoscopes or plastic components. It involves immersing instruments in approved chemical disinfectants.

Process

- Clean instruments thoroughly with soap and water before immersion.
- Submerge instruments in a disinfectant solution (e.g., glutaraldehyde or peracetic acid) for the recommended contact time, usually 10–30 minutes.
- Rinse instruments with sterile water to remove residual chemicals.

d) Dry heat sterilisation

Dry heat sterilisation is suitable for materials that may corrode or degrade in moist conditions, such as powders or certain metals.

Process

- Preheat the dry heat oven to the required temperature (typically 160–170°C).
- Place clean, dry instruments in the oven and sterilise for 1–2 hours, depending on the equipment and temperature.
- Allow instruments to cool in a sterile environment before use.

e) Sterilisation monitoring

Sterilisation is only effective when consistently monitored and verified.

Process

- Use chemical indicators, such as colour-changing strips, to confirm exposure to sterilising agents.
- Conduct regular biological testing with spore tests to ensure sterility.
- Maintain a log of sterilisation cycles, including date, time, and confirmation of success.

Trainer's notes

- Highlight the need for trainees to check sterilised instruments for intact packaging and clean surfaces before use.
- Reinforce the practice of re-sterilising any instrument that has been compromised.

6.2. Trainer-led activity

Discuss sterile practices, including:

- Preparing a sterile field.
- Proper use of sterile gloves and instruments.
- Techniques to prevent contamination during labour and delivery.

Role play: Simulate a delivery scenario where participants practise sterile techniques. Provide corrective feedback and emphasise the consequences of breaks in sterility.



Nusrat Bano, 46, a Lady Health Worker, checking the pulse of a woman in District Lodhran, Punjab, Pakistan.

Session 7:

Respiratory hygiene (20 minutes)

Respiratory hygiene involves practices like covering the mouth and nose during coughing or sneezing, using tissues or elbows, and disposing of tissues safely to prevent the spread of respiratory infections. It also includes maintaining proper respiratory etiquette in healthcare settings to protect patients and healthcare workers.

Session objectives

- Equip LHV with the knowledge and skills to implement and promote respiratory hygiene practices in maternity settings to protect mothers, newborns, and healthcare workers from respiratory infections.
- To educate on the importance of respiratory hygiene and correct practices to prevent the spread of respiratory infections.

Session overview

Definition and importance of respiratory hygiene: Respiratory hygiene includes practices like covering the mouth and nose during coughing or sneezing, proper disposal of used tissues, and maintaining frequent hand hygiene.

a) Importance in maternity settings

- Prevents the spread of respiratory infections, which can impact mothers with weakened immunity post-delivery or during pregnancy.
- Reduces the risk of newborn exposure to respiratory pathogens, as their immune systems are underdeveloped.
- Ensures a safe environment for healthcare workers and patients in maternity units.

b) WHO recommendations for respiratory hygiene

Cough etiquette

- Cover the mouth and nose with a tissue or elbow when sneezing or coughing.
- Dispose of tissues in a proper waste bin immediately after use.

Hand hygiene

- Wash hands with soap and water or use hand sanitiser after coughing, sneezing, or handling tissues.

Environmental hygiene

- Ensure adequate ventilation in labour rooms and waiting areas.
- Regularly disinfect surfaces that may be contaminated by respiratory droplets.

c) Application in maternity settings

- Encourage expectant mothers and visitors to adhere to respiratory hygiene practices.
- Train birth attendants to monitor for signs of respiratory infections and take precautions, such as using masks when in close contact with symptomatic individuals.
- Integrate respiratory hygiene messages into antenatal education sessions.



Sneeze & cough into a tissue



Dispose used tissue



Wash hands

Practical exercise: Peer review activity (10 minutes)

Activity instructions:

- Divide participants into pairs.
- One participant demonstrates respiratory hygiene practices in a real-life maternity setting scenario, such as assisting a coughing patient during labour or in a postnatal ward.
- The other participant acts as an observer, providing feedback on the demonstration based on clarity, empathy, and adherence to IPC guidelines.

Feedback session:

- Encourage participants to focus on both strengths and areas for improvement in their peer's approach.
- Trainers facilitate the discussion, reinforcing the importance of respiratory hygiene in protecting vulnerable populations.

Session 8:

Waste segregation and disposal in maternity units (15 minutes)

Proper waste disposal is a critical part of maintaining a safe and hygienic environment in maternity units. This session equips LHVs with the knowledge and skills to identify, segregate, and dispose of clinical waste in compliance with infection prevention and control (IPC) standards, thereby minimising risks to patients, healthcare providers, and the environment.

Learning objectives

- Understand safe segregation and disposal of clinical waste, including placentas and contaminated materials.
- Encourage participants to implement waste segregation practices immediately in their facilities.
- Share local guidelines or resources on healthcare waste management.



8.1. Types of waste generated in maternity units

Maternity units generate various types of waste, including:

Sharps waste

- Used needles, syringes, and other sharp instruments.
- Requires disposal in puncture-proof, labelled containers to prevent injuries and transmission of bloodborne infections.

Infectious waste

- Blood-soiled materials, such as gauze, dressings, and gloves.
- Includes placentas and other biological waste from deliveries.

General waste

- Non-contaminated items like packaging and food waste.
- Requires disposal with general municipal waste systems.



Pharmaceutical waste

- Expired or unused medications.
- Should be returned to pharmacies or disposed of following healthcare facility protocols.

Chemical waste

- Disinfectants and cleaning agents used in the maternity unit.
- Requires safe handling and disposal to prevent environmental contamination.

8.2. Importance of waste segregation

Prevention of cross-contamination

- Reduces the spread of infections within healthcare facilities.
- Protects healthcare workers, patients, and the community from exposure to hazardous materials.

Environmental protection

Proper segregation ensures safe disposal and reduces environmental pollution, especially from infectious or chemical waste.

Compliance with regulations

Adhering to waste disposal standards maintains legal and ethical accountability.

Cost-effective waste management

Segregating waste correctly minimises the costs associated with treating and disposing of hazardous waste.

8.3. Waste segregation and disposal guidelines

Colour-coded containers

- **Yellow bag/container:** Infectious and biological waste, including placentas and blood-soiled materials.
- **Red container:** Sharps, such as needles and scalpels.
- **Black bag:** General waste, like paper or food.
- **White bin:** Primarily used for pharmaceutical waste, including expired or unused medicines, ampoules, and vials.

Collection and disposal

- Infectious and biological waste should be sent for incineration or specialised treatment.
- Sharps should be disposed of via incineration or a sharps management system.
- General waste is sent to municipal waste facilities.

Mechanism for placenta disposal in maternity units

Placentas are classified as biological waste and require safe and separate disposal to prevent infections and environmental contamination. Proper disposal ensures infection control, environmental safety, and compliance with healthcare regulations while also respecting cultural practices. The disposal method varies depending on local policies and available resources.

To ensure safe disposal, placentas should be collected and contained immediately after delivery in a designated, leak-proof, and labelled biohazard bag (yellow bag) to prevent contamination. If immediate disposal is not possible, the placenta should be stored in a designated area within the maternity unit, preferably in a refrigerated space, to avoid decomposition and odour.

For final disposal, the following methods are commonly used:

- **Incineration:** The preferred method for infection control, where placentas are burned in a licensed medical incinerator.
- **Deep burial:** In facilities without incineration, placentas can be buried in a dedicated pit at least 1.5 meters deep, covered with soil and lime, ensuring it is fenced off to prevent access by animals.
- **Return to families:** In some cultural contexts, placentas may be handed over to families for burial, following proper documentation and local guidelines.



Abdul Ghafoor, 50-year-old cleaner managing the medical waste at Rural Health Center 53/M, District Lodhran, Punjab Province, Pakistan. March 2024

Handling and transport:

- Always wear appropriate personal protective equipment (PPE), such as gloves, masks, and aprons.
- Use clearly labelled and leak-proof containers to transport waste within healthcare facilities.

Practical exercise

Preparation:

Set up a table with mock waste items, such as gloves, gauze, a placenta model, syringes, and packaging materials. Provide colour-coded waste disposal containers (yellow, red, and black).

Activity steps:

- Step 1: Explain the types of waste and their appropriate disposal containers.
- Step 2: Guide participants to segregate the mock waste into the correct containers.
- Step 3: Provide immediate feedback, highlighting correct actions and correcting any mistakes.

Session 9:

Environmental cleaning in maternity units (25 minutes)

Environmental cleaning in maternity units is essential to prevent healthcare-associated infections (HAIs) and ensure the safety of mothers, newborns, and healthcare workers.

Maintaining a clean environment in labour and delivery rooms reduces the risk of contamination, particularly in areas where invasive procedures are performed. This session aims to equip LHVs with the skills and knowledge to implement effective cleaning protocols and create a hygienic maternity care environment.

Learning objectives

- Understand the role of environmental cleaning in infection prevention within maternity units.
- Learn cleaning and disinfection protocols for labour, delivery, and postpartum care rooms.
- Identify high-risk areas that require focused cleaning efforts.
- Demonstrate proper cleaning techniques for surfaces, equipment, and high-touch areas.
- Collaborate to create a comprehensive cleaning protocol tailored for maternity settings.



9.1. Importance of cleaning and disinfection in maternal healthcare (5 Minutes)

Explain how an unclean environment in maternity units can lead to severe infections for mothers and newborns, such as sepsis or respiratory infections. Emphasise that thorough cleaning and disinfection are foundational to preventing cross-contamination and maintaining a safe environment for care. Highlight statistics or examples to illustrate the impact of environmental cleaning on reducing HAIs.

9.2. Cleaning protocols for labour and delivery rooms (10 minutes)

Daily cleaning

Regular cleaning and disinfection of floors, surfaces, and equipment to maintain hygiene.

Post-procedure cleaning

Immediate cleaning and disinfection of the delivery room after each procedure, focusing on areas like delivery beds, trays, and instruments.

Terminal cleaning

Comprehensive cleaning performed at the end of the day or after discharge to remove pathogens from the entire unit.

9.3. High-risk areas requiring focused cleaning (5 minutes)

Some areas in maternity units are more likely to harbour pathogens due to frequent use or exposure to bodily fluids. These areas include:

- Delivery beds and adjacent surfaces.
- Instrument trays and equipment.
- High-touch surfaces such as door handles, light switches, and countertops.
- Waste disposal areas, including bins for infectious and general waste.

9.4. Proper cleaning techniques and use of agents (10 minutes)

Demonstrate the correct sequence for cleaning and disinfecting maternity units:

Start from clean to dirty

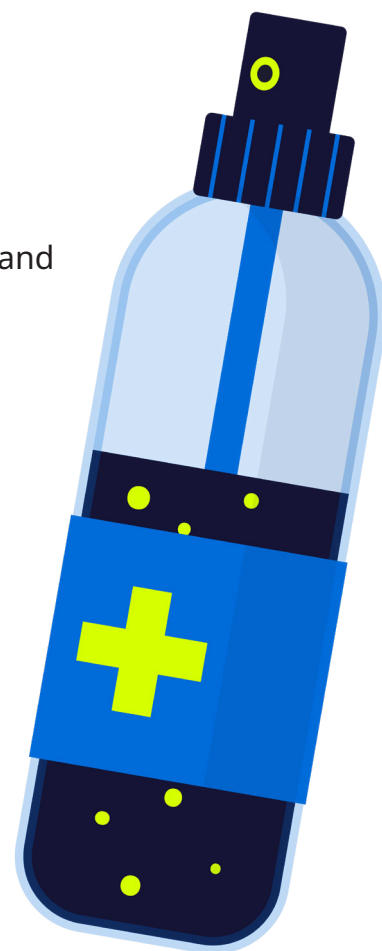
Begin cleaning the least contaminated areas and progress to the dirtiest ones to minimise spreading contaminants.

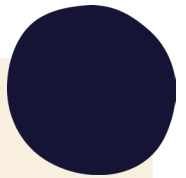
Use appropriate agents

Ensure proper dilution and application of disinfectants for effectiveness.

Wipe, rinse, and dry

Clean surfaces with a detergent solution, rinse with clean water, and dry thoroughly to remove residues.





Group activity

Activity instructions

- Divide participants into small groups and provide them with case scenarios (e.g., a busy delivery unit requiring terminal cleaning).
- **Ask each group to**
 - Identify the high-risk areas in their scenario.
 - Develop a cleaning protocol, including frequency, agents, and steps for each area.
 - Highlight the responsibilities of each team member in implementing the protocol.
 - Groups will present their cleaning protocols to the larger group.

Trainer role

- Provide constructive feedback on each protocol, ensuring alignment with IPC standards.
- Reinforce the importance of adherence to cleaning schedules and proper documentation.

Session 10:

Monitoring and sustainability of IPC in maternal settings (20 minutes)

Learning objectives

- Understand effective strategies for monitoring IPC compliance.
- Identify key IPC focus areas in maternity care, such as labour, delivery, postpartum care, hand hygiene, and waste management.
- Develop and apply monitoring tools, including checklists, to ensure IPC standards are maintained.
- Address common challenges in IPC monitoring and propose practical solutions.



10.1. IPC monitoring in maternal settings (5 minutes)

Monitoring IPC practices is crucial to maintaining a safe environment in maternity units. This ensures that protocols are followed to protect mothers, newborns, and healthcare providers from infections.

Explain the importance of systematic observation and the use of structured tools to evaluate compliance. Stress how regular monitoring helps identify gaps, improve practices, and sustain adherence to IPC standards.

10.2. Strategies for monitoring IPC (5 minutes)

Key methods

- **Observation-based monitoring:** Directly observe staff and facility conditions to assess adherence to IPC protocols.
- **Checklist-based monitoring:** Use structured tools to evaluate specific IPC components, ensuring consistency and clarity.>

Trainer instructions

- Provide examples of when each method is most effective (e.g., observation during busy hours to assess hand hygiene compliance).
- Discuss combining methods for a comprehensive assessment.

10.3. IPC in key areas (5 minutes)

Focus areas

- **Labour and delivery rooms:** Sterility of the environment and tools, adherence to PPE protocols.
- **Postpartum care:** Wound care practices, safe handling of newborns, and waste management.
- **Hand hygiene:** Compliance with WHO's 5 Moments of Hand Hygiene.
- **Waste management:** Proper segregation and disposal of infectious and non-infectious waste.

Trainer instructions

- Use real-life examples to illustrate risks and IPC solutions in each focus area.
- Highlight measurable indicators (e.g., hand hygiene compliance rate, frequency of waste disposal).

10.4. Challenges in monitoring and practical solutions (5 minutes)

Common Barriers

- **Resource constraints:** Lack of cleaning agents, PPE, or waste disposal facilities.
- **Resistance to change:** Colleagues may not see the value of IPC or resist monitoring efforts.
- **Unclear protocols:** Staff may lack clarity on IPC guidelines.

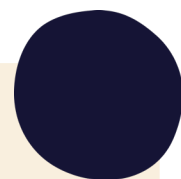


Proposed Solutions

- Advocate for resource allocation and prioritise IPC essentials.
- Use effective communication and leadership skills to foster a culture of compliance.
- Simplify and clarify IPC protocols to make them easy to follow and monitor.

Important for trainers

- Familiarise yourself with IPC standards and practical examples relevant to LHVs' roles.
- Prepare materials, including a sample monitoring checklist and facilitation technique guides.
- Use simple language and relatable examples to connect with participants.
- Encourage active participation and ensure everyone contributes to discussions and activities.
- Provide participants with copies of finalised checklists and facilitation resource guides.
- Plan follow-up meetings to discuss progress and challenges in implementing training and monitoring IPC practices.



Activity: Using an IPC monitoring checklist (5 minutes)

Present a sample checklist covering IPC essentials (e.g., hand hygiene, PPE use, environmental cleanliness, and waste segregation).

Explain its components, such as:

- **Item description:** Clear, specific behaviours or conditions to monitor.
- **Frequency:** Indicate how often the checklist should be used.
- **Compliance levels:** Options for assessing compliance (e.g., yes/no, partially compliant).

Demonstrate how to use the checklist during a maternity care assessment, focusing on accuracy and objectivity.

Note: Participants leave with ready-to-use monitoring checklists tailored to their maternity care settings.

Sustainability of IPC practices

Importance of IPC sustainability

Sustaining IPC measures ensures long-term infection prevention, patient safety, and quality care in maternal settings. Without sustainability, compliance may decline, leading to increased healthcare-associated infections (HAIs) and higher risks for both patients and healthcare providers.

Challenges in sustaining IPC

- **Limited budget & resources:** Continued shortages of PPE, disinfectants, and training opportunities.
- **Lack of staff motivation & compliance:** Resistance due to work overload or lack of awareness.
- **Weak monitoring systems:** Inconsistent follow-up and enforcement of IPC protocols.

Steps to ensure IPC sustainability

- **Integrate IPC into routine practice:** Make IPC part of daily operations rather than an occasional initiative.
- **Regular training & capacity building:** Conduct periodic refresher courses for healthcare workers.
- **Strengthen leadership & accountability:** Assign IPC focal persons in maternity units for oversight and compliance.
- **Implement continuous monitoring & feedback mechanisms:** Use real-time assessments and staff feedback to improve adherence.
- **Advocate for policy & resource support:** Work with hospital administration and policymakers to secure long-term funding and resource allocation for IPC.

Conclusion of module 4

Infection prevention is not just a protocol but a commitment to delivering high-quality, safe maternal and child healthcare. Whether you are conducting antenatal checkups, assisting in deliveries, or providing postnatal care, adhering to IPC measures ensures that you are reducing the risk of infections for mothers, newborns, and your fellow healthcare workers.

The IPC training for LHVs has provided you with essential knowledge and practical skills to effectively implement Infection Prevention and Control practices in your daily responsibilities.

The IPC training has equipped you with vital knowledge and practical skills to effectively implement Infection Prevention and Control practices in your everyday healthcare responsibilities. By mastering key guidelines, protocols, and safety measures, you are now empowered to play a pivotal role in preventing infections, safeguarding your patients, and ensuring your own health and safety.

As LHVs, your role in the healthcare system is critical. By consistently applying the principles of infection prevention, you contribute to a safer and healthier environment for your patients, their families, and the broader community.

Remember, small actions—like proper handwashing, effective waste segregation, or using PPE correctly—can have a significant impact in saving lives and preventing disease spread. Continue to lead by example, inspire others to follow IPC practices, and take pride in the invaluable role you play in improving maternal and child health. Together, through dedication to infection prevention, we can achieve a healthier, safer future for all.

Training of community midwives on Infection, Prevention, and Control (IPC)

Module 5



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Abbreviations

- **ABHR:** Alcohol-Based Hand Rub
- **BHUs:** Basic Health Units
- **CMWs:** Community Midwives
- **HAIs:** Healthcare-Associated Infections
- **IPC:** Infection Prevention and Control
- **PHC:** Primary Healthcare
- **PPE:** Personal Protective Equipment
- **Q&A:** Question and Answers
- **UV:** Ultraviolet
- **WHO:** World Health Organization

Introduction

Introduction to the module

This module introduces Community Midwives (CMWs) to the critical importance of IPC in maternal and neonatal care.

It highlights their role in ensuring that healthcare delivery is safe and free from preventable infections. Whether conducting antenatal visits in homes, assisting deliveries in community clinics, or supporting maternal care in healthcare facilities, CMWs must adhere to IPC standards to protect themselves, mothers, and newborns from harm.

Through this module, participants will gain a comprehensive understanding of the core IPC principles and their application to their work. The training includes practical demonstrations, role-playing scenarios, and group discussions to build hands-on skills. Additionally, the module addresses common challenges CMWs face, such as resource limitations in community settings, and offers practical solutions to overcome these barriers.

Learning objectives

- Understand the principles and importance of IPC in maternal and neonatal healthcare.
- Demonstrate effective hand hygiene techniques, including WHO's 5 Moments of Hand Hygiene.
- Identify the appropriate use of PPE for various maternal care procedures and situations.
- Implement sterilisation and disinfection processes for tools and equipment used during childbirth.
- Respiratory hygiene and cough etiquette to reduce the risk of airborne infections.
- Develop and follow environmental cleaning protocols in both community and healthcare facility settings.
- Advocate for safe waste disposals to minimise cross-contamination and environmental hazards.



Agenda for IPC training for community midwives (CMWs)

Session	Activities	Duration
Welcome & opening	Formal welcome, introduction to training objectives and agenda.	10 minutes
Session 1: Introduction and expectations	Participant introductions, setting expectations, and workshop overview. Icebreaker activity.	30 minutes
Pre-test	Pre-test on given forms by participants	15 minutes
Session 2: Facilitation skills	Principles of adult learning and facilitation methods. Engaging learners, group role-playing, and peer feedback	30 minutes
Session 3: Standard IPC measures for CMWs	Understanding of IPC, Overview of IPC for CMW in primary healthcare settings, Presentation and discussion.	30 minutes
Session 4: Hand hygiene	Practical demonstration of WHO's 5 Moments, handwashing techniques, group exercises.	30 minutes
Session 5: Use of PPE	Demonstration and practise using PPE in maternity care scenarios.	30 minutes
Break	Refreshments	15 minutes
Session 6: Sterilisation and disinfection	Overview of sterilisation methods, hands-on practise of disinfection techniques.	30 minutes
Session 7: Respiratory hygiene	Demonstration and role-playing respiratory hygiene and cough etiquette practises.	30 minutes
Session 8: Environmental cleaning, waste segregation and disposal	Group work: Design cleaning protocols for labour and delivery rooms, practical exercises.	30 minutes
Session 9: IPC monitoring and sustainability for CMWs	Discussion/group work on creating a monitoring checklist for IPC Sustainability of IPC measures	30 minutes
Conclusion & wrap-up	Summary of key learning points, participant feedback, Q&A, and formal closing.	15 minutes

Session 1:

Introduction and expectations

To effectively roll out a training session for Community Midwives (CMWs), trainers should begin by clearly introducing the session objectives, ensuring participants understand how the training aligns with their critical roles in maternal and newborn infection prevention and control (IPC).

Establish a structured agenda that outlines the sequence of topics and activities, including interactive presentations, group discussions, hands-on demonstrations, and practical exercises tailored to primary healthcare and maternity settings.

- Prepare and organise all training materials, such as flip charts, handouts, visual aids, and simulation tools, in advance to ensure a smooth and effective learning experience.
- Frame the module as a standalone resource by thoroughly introducing, explaining, and practising each concept.

Session structure and key activities

a) Introduction and icebreaker (10 minutes)

Start with an engaging icebreaker or a discussion to relate the training content to CMWs' real-world challenges, emphasising the direct impact of IPC practices on maternal and neonatal safety.

Welcome participants and create a positive atmosphere with an engaging icebreaker such as "Share One Thing You Love About Your Work."

Outline session objectives

- Introduce facilitation skills for IPC training.
- Promote interactive and collaborative learning.
- Set ground rules for respectful participation.



b) Establishing norms and expectations (5 minutes)

Encourage active participation by setting expectations for a collaborative learning experience, incorporating Q&A sessions, role-play scenarios, and group work to strengthen understanding and application of concepts.

- Collaboratively set ground rules (e.g., punctuality, confidentiality, and mutual respect).
- Discuss challenges LHV might face in facilitating IPC sessions and how to address them.

By the end of the session, CMWs should feel confident in applying IPC strategies/ protocols to their work settings, fostering safer maternal and newborn care environments.

c) Pre-test administration

The session will conclude with a brief reflection, A pre-test will then be administered to assess participants' initial understanding of IPC principles and facilitation skills. The results will guide the training programme to address the group's specific needs and measure progress.



A midwife checking newly born child in rural health center. April 2025

Session 2:

Facilitation skills

Learning objectives

- Understand the core principles of effective training facilitation.
- Learn how to engage and motivate participants through active listening and empathetic communication.
- Develop skills to create a conducive learning environment that encourages participant involvement and interaction.
- Master the techniques of guiding discussions, managing group dynamics, and addressing challenges during training sessions.
- Gain the ability to assess participant understanding and adjust facilitation techniques accordingly.
- Enhance skills in providing constructive feedback to improve participant learning and performance.



2.1. Good facilitation skills to conduct CMWs trainings

Effective facilitation is essential in any training environment, and it is particularly crucial when teaching Community Midwives (CMWs) about Infection Prevention and Control (IPC) practices. CMWs play an integral role in maternal health, often working in primary healthcare (PHC) or Basic Health Units (BHUs) to provide care to pregnant women and newborns. In these settings, CMWs need to be well-equipped with the knowledge and skills to implement IPC protocols to prevent infections during pregnancy, childbirth, and the postnatal period.

This session aims to equip trainers with the facilitation techniques required to educate CMWs effectively. By mastering facilitation skills, trainers can deliver IPC training sessions in a manner that is engaging, easy to understand, and practical. These techniques will help ensure that CMWs gain the confidence and competence to apply IPC practices in their daily work, fostering a safer healthcare environment for mothers and newborns.



Session Objectives

- The core principles of effective facilitation and its importance in training CMWs.
- Demonstrate how to engage CMWs through active listening, empathy, and clear communication.
- Apply interactive techniques such as role-playing, group discussions, and real-life examples to reinforce IPC learning.
- Develop skills to manage group dynamics and maintain focus during training sessions.
- Use feedback effectively to assess learning progress and improve training outcomes.

2.2. Session structure (20 minutes)

Outline session objectives

- Introduce facilitation skills for IPC training.
- Promote interactive and collaborative learning.
- Set ground rules for respectful participation.



2.3. Overview of core facilitation skills (10 minutes)

Communication skills

- Simplify IPC concepts using relatable examples.
- Ensure clarity by avoiding jargon and explaining protocols in actionable steps.

Active listening

- Use verbal and non-verbal cues to show attentiveness and validate participant input.
- Address specific concerns raised by participants to enhance relevance.

Adaptability

- Tailor facilitation to participants' understanding levels.
- Introduce additional examples or demonstrations when needed.

Maintaining focus

- Guide discussions to stay aligned with session objectives.
- Manage time effectively to cover all content areas.

Interpersonal skills

- Foster trust and collaboration by understanding participant needs.
- Create an inclusive learning environment where every participant feels valued.

2.2. Practical application and reflection (10 minutes)

Conduct a role-play activity where CMWs practise facilitating a short IPC training topic (e.g., safe birth/ safe maternity/ delivery room environment). Provide peer and trainer feedback on facilitation techniques.

By the end of the session, CMWs will have foundational facilitation skills to adopt IPC effectively and ensure the successful implementation of IPC protocols in their healthcare facilities.

“Safe birth: Infection-free delivery room preparation”

Time required: 30–45 minutes

Materials needed

- Gloves, masks, and disposable gowns (if available)
- Handwashing station or alcohol-based hand rub
- Clean linens and sterilised delivery instruments
- Waste disposal bins (for sharps, biohazard waste, and general waste)
- Simulated patient area (e.g., a bed or examination table)
- Role cards (healthcare worker, observer, patient, assistant)

Roles

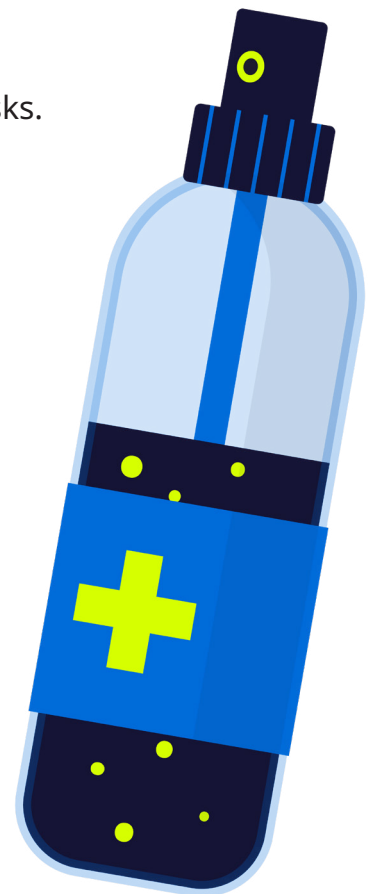
- **Healthcare worker (midwife/nurse/doctor):** Prepares the delivery room following infection prevention protocols.
- **Assistant (support staff/nurse aid):** Helps with room setup, sterilisation, and disposal of waste.
- **Observer (trainer/senior staff):** Evaluates adherence to infection prevention steps.

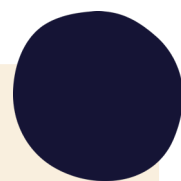
Scenario

The participants must set up a delivery room while following proper infection prevention measures.

Steps to perform

- **Hand hygiene:** The healthcare worker and assistant wash hands using the correct technique or use hand sanitiser.
- **Wear protective equipment:** Put on gloves, masks, and gowns as needed.
- **Prepare clean environment:**
 - Ensure all surfaces are disinfected.
 - Arrange sterilised delivery instruments.
 - Lay out clean linens for the patient.
- **Manage waste disposal bins:**
 - Set up different bins for sharps, biohazard waste, and general waste.
 - Label them properly and place them in an accessible area.
- **Ensure proper ventilation & lighting:**
 - Check if the room has good airflow to reduce infection risks.
 - Adjust lighting to ensure clear visibility during delivery.
- **Final check & readiness:**
 - Double-check if all materials are ready.
 - Ensure that an infection control checklist is followed.





Role play activity:

Objective

Develop CMWs' communication skills for effective interactions with patients, families, and colleagues.

Steps

- **Introduction (5 minutes):** Trainer explains the importance of active listening, empathy, and clarity in communication.
- **Group division (5 minutes):** Form groups of three: one as the CMW, one as the patient/family member, and one as the observer.
- **Scenario assignment (10 minutes):** Assign scenarios like explaining hand hygiene, addressing postpartum concerns, or discussing safe deliveries.
- **Role play (15 minutes):** Each group acts out the scenario, practising communication techniques.
- **Feedback (10 minutes):** Observers provide constructive feedback on strengths and improvement areas.
- **Debrief (5 minutes):** Trainer summarises key points and lessons learned.

Session 3:

Standard IPC measures for CMWs

Infection Prevention and Control (IPC) is vital in ensuring safe healthcare delivery, especially in primary healthcare settings where Community Midwives (CMWs) play a pivotal role. This session introduces the core concepts of IPC, emphasising its importance in protecting mothers, newborns, and healthcare providers from infections. The focus will be on building a foundational understanding of IPC, which will be explored in detail in subsequent sessions on specific practices like hand hygiene, sterilisation, PPE, waste management, and environmental cleaning.

3.1. Structure of the session

a) Importance of standard precautions (5 minutes)

- Trainer explains the concept of standard precautions and their role in breaking the chain of infection.
- Highlight the significance of IPC in reducing maternal and neonatal infections.
- Discuss examples of common risks, such as infections during delivery or postpartum care.

b) Introduction to IPC (5 minutes)

- Trainer explains what IPC is and its purpose in preventing healthcare-associated infections (HAIs).
- Discuss the impact of poor IPC practices on maternal and newborn health.
- Emphasise the role of CMWs as frontline workers in maintaining IPC standards.

c) Importance of IPC in primary healthcare (5 minutes)

- Discuss infection risks specific to primary healthcare and community-level maternity services.
 - **Examples:** Home deliveries, antenatal visits, and postnatal care.
- Highlight the benefits of effective IPC, including reduced infection rates, safer deliveries, and improved patient trust.

d) Overview of key IPC measures (15 minutes)

Provide a brief overview of the core IPC components, with a promise to cover each in detail in subsequent sessions:

- **Hand hygiene:** Foundation of IPC, critical for interrupting infection transmission.
- **Sterilisation:** Ensures that tools and equipment are safe for use.
- **PPE use:** Protects healthcare workers and patients during procedures.
- **Waste management:** Proper disposal prevents environmental contamination and infection spread.
- **Environmental cleaning:** Maintains a safe and hygienic healthcare environment.



WaterAid/ Muhammad Omair

Color coded waste bins placed in the Basic Health Unit Gani Chatra, Tehsil Topi, District Swabi, Khyber Pakhtunkhwa Province, Pakistan. July 2025

Session 4:

Hand hygiene (30 minutes)

This session is tailored for CMWs, focusing on the importance and correct techniques of hand hygiene to ensure infection prevention during maternal health and delivery care.

4.1. Introduction: Setting the context (5 minutes)

Objective

Understand the critical role of hand hygiene in maternal health settings and the prevention of infections.

Context

Highlight its significance in preventing infections in mothers and newborns, especially during labour, delivery, and neonatal care.

Why hand hygiene matters

Prevents cross-contamination and infection during procedures.
Protects both patients and healthcare workers.

Key risks

Emphasise how poor hand hygiene can spread pathogens, causing infections during delivery or postpartum care

WHO's 5 moments for hand hygiene

Explain the five critical moments for hand hygiene:

- Before patient contact.
- Before clean/aseptic procedures.
- After exposure to bodily fluids.
- After patient contact.
- After touching patient surroundings.

4.2. Step-by-step handwashing technique (10 minutes)

Objective

Teach CMWs the correct handwashing steps to ensure thorough cleanliness.

Trainer demonstration

Using a sink, soap, and a towel, perform a live demonstration while narrating each step:

- **Wet hands thoroughly with water:**

Explain that wetting hands prepares the skin for soap application.

- **Apply soap and rub palms together:**

- Use a small amount of soap and lather it by rubbing palms together.
- Highlight how soap breaks down germs and dirt.

- **Rub the back of each hand and between fingers:**

- Show interlacing fingers to clean spaces between them.
- Stress these areas are often missed.

- **Focus on thumbs and fingertips:**

- Demonstrate encircling thumbs and cleaning fingertips by rubbing them on the opposite palm.
- Highlight that these are high-contact areas requiring extra attention.

- **Rinse thoroughly with running water:**

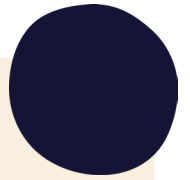
Stress the importance of removing all soap to avoid irritation and ensure hygiene.

- **Dry hands with a tissue or an air dryer:**

Explain how damp hands can harbour bacteria, making proper drying essential.

Trainer will ask participants to demonstrate how they wash their hands before delivery or after attending a delivery or cleaning the delivery room. The trainer will then facilitate the activity, highlighting correct techniques and areas for improvement.

<https://www.youtube.com/watch?v=XVYn2AoSneA>



Practical activity for CMWs (10 minutes)

Objective: Allow participants to practise handwashing techniques under supervision learn the appropriate method of handwashing.

Participant demonstration

- Divide participants into pairs or small groups.
- Each participant performs the step-by-step handwashing techniques.

Trainer feedback

- Observe and provide constructive feedback, ensuring all steps are followed correctly.
- Address common mistakes, like neglecting thumbs or not rinsing properly.

Discussion

- Wrap up by discussing the importance of maintaining these techniques during real-life scenarios in maternal and delivery care.

Session 5:

Use of PPE

(30 minutes)

This session provides an in-depth understanding of Personal Protective Equipment (PPE) usage tailored for CMWs working in both community and healthcare facility settings. PPE is crucial for protecting both healthcare workers and patients from infections during maternal health care, especially in high-risk situations such as deliveries and wound care.

5.1. Importance of PPE in maternal health (10 minutes)

Objective

Equip CMWs with the knowledge to select, wear, and dispose of PPE correctly to ensure safety in healthcare settings.

What is PPE?

- PPE refers to items worn to protect against infection and minimise exposure to pathogens. For CMWs, PPE includes gloves, masks, gowns, eye protection, and face shields.
- Emphasise how PPE plays a vital role in preventing the transmission of infections to mothers and newborns during labour, delivery, and postpartum care.

Why PPE matters?

- Discuss the importance of using PPE to reduce the risk of healthcare-associated infections (HAIs), which can lead to severe complications for both mothers and infants.
- Focus on scenarios in which PPE is essential, such as handling blood and bodily fluids during delivery or wound care, cleaning and dressing wounds, and assisting with neonatal care.

5.2. Types of PPE and their use (10 minutes)

Objective

Identify and understand when and how to use different types of PPE.

a) Gloves

Use: Worn during any procedure where exposure to bodily fluids or contaminated materials is expected (e.g., delivery, wound care, handling contaminated equipment).

Key points:

- Always use single-use gloves.

- Ensure a snug fit and avoid touching non-sterile surfaces once gloves are on.
- Change gloves between different tasks to avoid cross-contamination.

b) Masks and respirators

Use: Worn to protect from respiratory droplets or airborne pathogens (e.g., during delivery, when dealing with respiratory infections, or when close contact is necessary).

Key points:

- Masks should cover the nose and mouth completely.
- Respirators may be used when higher-level protection is required (e.g., during procedures that generate airborne pathogens).
- Always ensure a secure fit and adjust as needed.

c) Gowns and aprons

Use: Protects clothing and skin from contamination during procedures like delivery or cleaning contaminated areas.

Key points:

- Gowns should be long-sleeved and cover the entire body, including arms and legs.
- Disposable gowns should be discarded after each use; reusable gowns should be cleaned and disinfected thoroughly.

d) Eye protection (face shields or goggles)

Use: Protects eyes from splashes, sprays, and droplets during high-risk procedures.

Key points:

- Ensure that eye protection is comfortable and does not obstruct vision.
- Clean and disinfect goggles or face shields after each use.

5.3. When and how to use PPE (10 minutes)

Objective

Provide practical understanding on when to use each type of PPE based on the risk of exposure.

a) When to wear PPE

- During delivery, particularly when assisting with vaginal exams, episiotomies, or cesarean sections.

- During wound care, including handling and dressing postpartum wounds or surgical incisions.
- When dealing with contaminated materials like soiled linens or instruments.
- When caring for newborns, particularly when dealing with respiratory issues or procedures that could cause infection.

b) Correct procedure for donning and doffing PPE

Donning (putting on PPE):

- Always start with hand hygiene.
- Put on gloves first, followed by the gown or apron, mask, and eye protection.
- Make sure each piece is secure and fitted properly before beginning any procedure.

Doffing (removing PPE):

- Remove gloves first, followed by gown, mask, and eye protection.
- Avoid touching the outer surfaces of PPE with bare hands.
- Perform hand hygiene immediately after removing PPE.

Practical exercise

Hands-on demonstration and practice: Participants will practise wearing and removing PPE, focusing on techniques to minimise contamination.

Session 6:

Sterilisation and disinfection

(30 minutes)

This session is designed to equip Midwives (MWs) with the skills and knowledge required to effectively sterilise and disinfect medical equipment. Participants will learn the distinctions between cleaning, disinfection, and sterilisation, understand various methods, and apply these techniques in practical, health facility settings to minimise infection risks.

Sterilisation

A process that eliminates or kills all forms of microbial life, including bacteria, viruses, fungi, and spores, from a surface or instrument. It is crucial in healthcare to ensure tools used during procedures like deliveries are free from contaminants.

Disinfection

A process that reduces the number of harmful microorganisms on surfaces or objects to a safe level but does not necessarily eliminate all microbial life. Disinfection is typically used for surfaces that are not in direct contact with sterile body parts (e.g., examination tables).

6.1. Methods of sterilisation and disinfection

a) Sterilisation techniques

Autoclaving

Uses high-pressure saturated steam at a specific temperature (usually 121–134°C) for a set time to sterilise instruments.

Dry heat

Involves heating objects at high temperatures, typically in an oven, to sterilise items like glassware.

Chemical sterilisation

Uses sterilants like ethylene oxide gas or hydrogen peroxide plasma to sterilise heat-sensitive equipment.

b) Disinfection methods

Chemical disinfectants

Clean touchable surfaces with water and detergent, bleach solutions, or other antimicrobial agents used on surfaces or semi-critical instruments.

UV disinfection

Employing ultraviolet light to inactivate microorganisms on surfaces.

Role of CMWs

As frontline health workers, CMWs are critical in ensuring sterilisation, especially during childbirth and routine patient care. Their responsibilities include:

- Properly identifying tools requiring (e.g., forceps, scissors).
- Following strict protocols to prevent cross-contamination.
- Educating patients on the importance of maintaining hygiene.

6.2. Practical Exercises for CMWs

The trainer will start the activity by inquiring the current practices/ methods used after identifying current practices. The trainer will explain that the upcoming activity will introduce simple, effective methods to enhance their infection prevention techniques, especially in low-resource settings. Highlight that these methods can complement or improve upon what they already do.

Activity: Infection prevention in primary healthcare or BHU setting

Objective

Equip participants with practical skills to implement sterilisation and disinfection when access to modern tools (e.g., autoclaves) is limited.

Materials

Soap, water, pressure cookers or boiling pots, alcohol wipes, cloth masks, and antiseptic solutions.

Steps

- Demonstrate how to create a sterilisation process using boiling water in a large pot or pressure cooker.
- Highlight boiling duration (at least 20 minutes) for tools like scissors or clamps.
- Train participants on how to disinfect reusable cloth materials (e.g., cloth masks) using antiseptic washes and proper drying techniques under sunlight.
- Discuss ways to maintain hygiene during power outages, such as preparing sterilised kits in advance.
- Facilitate a group discussion on overcoming local barriers to implementing sterilisation in rural health facilities.

Session 7:

Respiratory hygiene

(20 minutes)

Respiratory hygiene involves practices like covering the mouth and nose during coughing or sneezing, using tissues or elbows, and disposing of tissues safely to prevent the spread of respiratory infections. It also includes maintaining proper respiratory etiquette in healthcare settings to protect patients and healthcare workers.

Session objective

- Equip CMWs with the knowledge and skills to implement and promote respiratory hygienes in maternity settings to protect mothers, newborns, and healthcare workers from respiratory infections.
- To educate on the importance of respiratory hygiene and correct practices to prevent the spread of respiratory infections.

7.1. Session overview

a) Definition and importance of respiratory hygiene

Definition

Respiratory hygiene includes practices like covering the mouth and nose during coughing or sneezing, proper disposal of used tissues, and maintaining frequent hand hygiene.

Importance in maternity settings

- Prevents the spread of respiratory infections, which can impact mothers with weakened immunity post-delivery or during pregnancy.
- Reduces the risk of newborn exposure to respiratory pathogens, as their immune systems are underdeveloped.
- Ensures a safe environment for healthcare workers and patients in maternity units.

b) WHO recommendations for respiratory hygiene

Cough etiquette

- Cover the mouth and nose with a tissue or elbow when sneezing or coughing.
- Dispose of tissues in a proper waste bin immediately after use.

Hand hygiene

Wash hands with soap and water or use hand sanitiser after coughing, sneezing, or handling tissues.

Environmental hygiene

- Ensure adequate ventilation in labour rooms and waiting areas.
- Regularly disinfect surfaces that may be contaminated by respiratory droplets.

7.2. Application in maternity settings

- Encourage expectant mothers and visitors to adhere to respiratory hygiene practices.
- Train birth attendants to monitor for signs of respiratory infections and take precautions, such as using masks when in close contact with symptomatic individuals.
- Integrate respiratory hygiene messages into antenatal education sessions.

Practical Exercise: Peer review activity (10 minutes)

Activity instructions

- Divide participants into pairs.
- One participant demonstrates respiratory hygiene in a real-life maternity setting scenario, such as assisting a coughing patient during or in a postnatal ward.
- The other participant acts as an observer, providing feedback on the demonstration based on clarity, empathy, and adherence to IPC guidelines.

Feedback session

- Encourage participants to focus on both strengths and areas for improvement in their peer's approach.
- Trainers facilitate the discussion, reinforcing the importance of respiratory hygiene in protecting vulnerable populations.

Session 8:

Environmental cleaning, waste segregation and disposal (30 minutes)

Environmental cleaning involves systematic cleaning and disinfection of maternity care areas to prevent the spread of infections. It ensures a safe, hygienic environment for both patients and healthcare providers.

Session objective

By the end of this session, Community Midwives (CMWs) will be able to:

- Understand the importance of environmental cleaning and waste disposal in preventing the spread of infections in maternity care.
- Identify key areas that require regular cleaning and how to properly disinfect them.
- Gain knowledge about proper waste segregation and disposal techniques in maternal healthcare settings.
- Apply best practices for environmental cleaning and waste management to maintain a hygienic and safe environment for mothers, newborns, and healthcare providers.

8.1. Introduction to environmental cleaning and waste disposal (5 minutes)

Objective

Provide an overview of why environmental cleaning and waste disposal are critical to infection prevention and control (IPC) in maternal care.

Why it matters

- Emphasise that a clean environment plays a vital role in reducing the risk of healthcare-associated infections (HAIs), which can be particularly harmful to mothers and newborns in maternity settings.
- Poor environmental cleaning can contribute to the spread of harmful microorganisms, increasing the risk of infections such as neonatal sepsis, wound infections, and mastitis.

Key areas to focus on

- High-touch surfaces, instruments, patient rooms, delivery rooms, and common areas.
- Proper waste disposal, especially for medical waste like needles, gauze, and placenta.

8.2. Key areas for environmental cleaning in maternity settings (10 minutes)

Objective

Guide CMWs to identify and understand which surfaces and areas require regular cleaning in healthcare settings.

a) High-touch surfaces

- **Examination tables, beds, and delivery tables:** Clean and disinfect after every patient interaction.
- **Doorknobs, light switches, and handrails:** Frequently touched surfaces that must be cleaned throughout the day.
- **Chairs, seats, and waiting areas:** These should be regularly sanitised to prevent the spread of infections.

b) Instruments and medical equipment

- **Examination tools:** Thermometers, stethoscopes, blood pressure cuffs, etc., should be disinfected after each use.
- **Cleaning and sterilisation:** Tools that come in contact with bodily fluids should be sterilised according to infection control protocols.

c) Floors, walls, and restrooms

- Floors and walls in high-risk areas (such as delivery rooms) should be cleaned thoroughly and regularly.
- Restrooms and changing areas should be sanitised frequently, focusing on toilets, sinks, and other frequently touched surfaces.

d) Maternal and newborn care spaces

- **Postpartum rooms:** Ensure that areas where mothers rest are kept clean, including bedding, chairs, and surrounding surfaces.
- **Baby care spaces:** Cleaning of infant beds and changing areas is critical to ensure the newborn's safety.

8.3. Waste segregation and disposal (10 minutes)

Objective

Teach participants about safe waste management practices, focusing on segregating and disposing of different types of waste.

a) Types of waste in maternal care settings

- **Infectious waste:** Includes materials contaminated with blood, body fluids, or other potentially infectious substances (e.g., used needles, placenta, soiled gauze).
- **Non-infectious waste:** Includes general waste like packaging materials, tissues, and non-contaminated items.
- **Sharp objects waste:** Items such as syringes, needles, scalpels, and other sharp instruments.

b) Waste segregation

- **Colour-coded bins:** Use clearly labelled bins for different types of waste. For example:
 - Red bin for infectious waste.
 - Yellow bin for sharp objects waste.
 - Black bin for general waste.
- **Avoid mixing waste:** Emphasise that waste must be carefully sorted and never mixed to prevent contamination and to facilitate safe disposal.



c) Proper disposal of waste

- **Safe disposal of sharps:** Ensure that used needles and sharp objects are immediately disposed of in puncture-resistant containers.
- **Disposal of contaminated items:** Contaminated items like soiled gloves, gauze, and placenta should be disposed of in biohazard bags or containers designed for infectious waste.
- **Waste transportation:** Waste should be transported to designated disposal areas with caution, ensuring it is securely sealed to prevent exposure.

d) Mechanism for placenta disposal in maternity units

Placentas are classified as biological waste and require safe and separate disposal to prevent infections and environmental contamination. Proper disposal ensures infection control, environmental safety, and compliance with healthcare regulations while also respecting cultural practises. The disposal method varies depending on local policies and available resources.

To ensure safe disposal, placentas should be collected and contained immediately after delivery in a designated, leak-proof, and labelled biohazard bag (yellow bag) to prevent contamination. If immediate disposal is not possible, the placenta should be stored in a designated area within the maternity unit, preferably in a refrigerated space, to avoid decomposition and odor.

For final disposal, consider the following methods:

- **Incineration:** The preferred method for infection control, where placentas are burned in a licensed medical incinerator.
- **Deep burial:** In facilities without incineration, placentas can be buried in a dedicated pit at least 1.5 meters deep, covered with soil and lime, ensuring it is fenced off to prevent access by animals.
- **Return to families:** In some cultural contexts, placentas may be handed over to families for burial, following proper documentation and local guidelines.

Practical exercise

Group work: In small groups, participants will design a cleaning and waste disposal protocol for a healthcare setting (e.g., a clinic or maternity ward) based on the session's guidelines. They will then practise implementing the protocol, including surface cleaning, waste segregation, and proper disposal techniques.

Session 9:

IPC monitoring and sustainability for CMWs (30 minutes)

9.1. IPC monitoring

Community Midwives (CMWs) play a vital role in safeguarding maternal and neonatal health by ensuring clean and safe prenatal/ postnatal and delivery environments. Effective monitoring of Infection Prevention and Control (IPC) practises in maternity wards is essential to prevent life-threatening infections for both mothers and newborns. By adhering to standardised IPC protocols and consistently monitoring compliance, CMWs can significantly enhance the quality of care and reduce maternal and neonatal morbidity and mortality. This session emphasises practical, actionable strategies for CMWs to uphold and monitor IPC standards in primary healthcare settings.

Key components

a) Steps for monitoring IPC

Create a checklist for labour rooms, covering:

Hand hygiene station availability

- Are hand hygiene stations accessible and fully stocked?
- Are soap and disposable towels available?
- Is alcohol-based hand rub available at the point-of-care?

Clean delivery kits and sterile equipment

- Are sterile delivery kits available for each delivery?
- Are all instruments (scissors, forceps, clamps, etc.) properly sterilised before use?
- Are single-use items disposed of correctly?

Availability and use of PPE by CMWs during checkups/delivery/patient contact

- Do CMWs wear gloves for all patient contacts?
- Do CMWs change gloves between patients?
- Are masks worn during delivery and any procedure involving fluid exposure?
- Are aprons or gowns used when required?



Cleanliness of delivery surfaces

- Are delivery beds disinfected before and after each use?
- Are surfaces like examination tables, bedside tables, and trays cleaned regularly?
- Is there a schedule for routine labour room cleaning?
- Are disinfectants available and used correctly?

Waste management & infection control practises

- Is medical waste properly segregated (sharps, infectious, general waste)?
- Are sharps disposed of in puncture-proof containers?
- Is placenta and other biological waste disposed of according to protocol?

Checklist: Following is the sample checklist, and this checklist helps in systematically monitoring IPC compliance in labour rooms.

Category	Monitoring criteria	Compliant (Yes/No)	Remarks
Hand hygiene	Hand hygiene stations are available and accessible. CMWs wash hands before and after patient contact. Alcohol-based hand rub is available and used properly.		
Clean delivery kits	Sterile delivery kits are available and properly stored. Instruments are disinfected/sterilised after each use.		
Use of PPE	CMWs wear gloves during patient checkups and delivery. CMWs wear masks during patient contact. Aprons/gowns are used when needed. Support staff use PPE as required.		

Category	Monitoring criteria	Compliant (Yes/No)	Remarks
Labour room cleanliness	Delivery surfaces are disinfected before and after use.		
	Waste is properly segregated and disposed of.		
	Floors and high-touch areas are cleaned regularly.		

Note: Conduct routine checks during and after procedures to ensure compliance.

Group work

Divide participants into teams to design a basic IPC checklist for maternal health settings.

Example checklist points:

- Are gloves worn during every procedure?
- Is the waste bin sealed and accessible?
- Are antiseptic solutions available and used?

Discussion

Teams present their checklists. Trainers provide input on how to improve their monitoring tools.

Trainer's notes

- Prepare materials in advance, including role-play scenarios, monitoring checklists, and handouts.
- Use real-life examples from maternal health settings to make the session relatable.
- Keep the tone positive and supportive to encourage active participation.
- Share templates for IPC monitoring tools for participants to use in their.

9.2. Sustainability of IPC practices for community midwives (CMWs)

Importance of IPC sustainability

Consistent IPC practices reduce the risk of infections during childbirth, protect CMWs from occupational hazards, and enhance the overall quality of care in maternity settings. Without sustainability, compliance may decline, increasing the risk of infections for mothers, newborns, and healthcare providers.

Challenges in sustaining IPC for CMWs

- Limited access to resources: Inconsistent supply of PPE, disinfectants, and sterile equipment.
- Lack of continuous training: Few opportunities for skill updates on IPC protocols.
- Workload & compliance issues: Overburdened CMWs may struggle to prioritise IPC practices.
- Weak monitoring & supervision: Limited oversight leads to lapses in IPC adherence.

Steps to ensure IPC sustainability

- **Make IPC a routine practice:** Integrate IPC into daily maternal and neonatal care rather than treating it as an occasional task.
- **Ongoing training & capacity building:** Conduct refresher sessions on hand hygiene, waste disposal, environmental cleaning, using PPE and sterilisation/ disinfection techniques.
- **Strengthen accountability & leadership:** Designate IPC focal persons health facility to oversee adherence and mentorship.
- **Regular monitoring & feedback:** Use IPC checklists, peer reviews, and supervisory visits to reinforce compliance.
- **Secure resource & policy support:** Advocate with health authorities for a steady supply of essential IPC materials and funding.
- **Engage the community:** Educate visiting females and attendants about clean delivery practices and the role of IPC in preventing infections.

Conclusion of module 5

Infection Prevention and Control (IPC) is more than a set of guidelines—it is a fundamental commitment to ensuring safe and high-quality maternal and newborn care. As frontline healthcare providers, CMWs play a crucial role in preventing infections during pregnancy, childbirth, and postnatal care. By consistently following IPC protocols, you help protect mothers, newborns, and yourself from preventable health risks.

This training has provided you with essential knowledge and hands-on skills to implement IPC practices effectively in your daily work. From proper hand hygiene and safe delivery techniques to correct waste management and PPE use, you are now better equipped to create a clean and safe birthing environment. Your dedication to IPC will not only reduce maternal and neonatal infections but also strengthen trust within the communities you serve.

Your role as a CMW is invaluable in improving maternal and child health. Small but consistent actions—such as sterilising instruments, washing hands correctly, and ensuring clean delivery practices—can make a significant impact in saving lives. By leading through example, educating families, and advocating for IPC best practices, you contribute to a healthier and safer future for mothers and newborns.

Stay committed, continue learning, and inspire others to follow IPC measures. Together, we can build a stronger, infection-free healthcare system that prioritises the well-being of every mother and child.

Training of sanitary workers on Infection, Prevention and Control (IPC)

Module 6



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Abbreviations

- **ABHR:** Alcohol-Based Hand Rub
- **BHUs:** Basic Health Units
- **CMWs:** Community Midwives
- **HAIs:** Healthcare-Associated Infections
- **IPC:** Infection Prevention and Control
- **LHVs:** Lady Health Visitors
- **MNCH:** Maternal, Newborn, and Child Health
- **PHC:** Primary Healthcare
- **PPE:** Personal Protective Equipment
- **UV:** Ultraviolet
- **UTI:** Urinary Tract Infection
- **WHO:** World Health Organization

Introduction

Introduction to the module

This module aims to equip the sanitary workers with the knowledge and practical skills necessary to implement effective infection prevention and control measures and sanitation practices in healthcare settings to prevent themselves from infection and those visiting the healthcare facilities.

It emphasises the critical role of environmental cleaning, disinfection, and proper waste management in preventing healthcare-associated infections (HAIs). Considering the education level of this cadre, the training is designed to be interactive, incorporating practical demonstrations and role-playing to ensure that participants understand well and develop confidence and competence in applying these techniques in their work environments.

Learning objectives

- Recognise the importance of Infection Prevention and Control (IPC) in maintaining a safe and hygienic healthcare environment.
- Apply proper hand hygiene techniques to minimise the risk of infection transmission.
- Implement effective cleaning and disinfection practices to ensure a sanitary healthcare facility.
- Follow safe waste management procedures, including segregation, handling, and disposal of medical and general waste.
- Use Personal Protective Equipment (PPE) correctly to protect themselves and others from infections.



Agenda for IPC training for sanitary workers

Session	Activities	Duration
Welcome & opening	Formal welcome, introduction to training objectives and agenda.	10 minutes
Session 1: Introduction and expectations	Participant introductions, setting expectations, and workshop overview. Icebreaker activity.	30 minutes
Pre-test	Pre-test on given forms by participants	15 minutes
Session 2: Facilitation skills	Principles of adult learning and facilitation methods. Engaging learners, group role-playing, and peer feedback	30 minutes
Session 3: Importance of sanitation and environmental cleaning in healthcare	Overview of sanitation's role in preventing HAIs. Discussion on the importance of environmental cleaning.	30 minutes
Session 4: Role of sanitary worker in keeping a healthy/clean environment of health facility	To equip sanitary workers with the knowledge and skills to maintain a clean and infection-free healthcare environment through proper cleaning, waste management, and hygiene practices.	30 minutes
Session 5: Hand hygiene	Practical demonstration of WHO's 5 Moments, handwashing techniques, and group exercises.	30 minutes
Break		15 minutes
Session 6: Use of PPE	Demonstration and practise using PPE in maternity care scenarios.	30 minutes
Session 7: Disinfection techniques	Demonstration and hands-on practise of cleaning and disinfection in high-risk areas	30 minutes
Session 8: Waste segregation and disposal	Role-play and hands-on activity for segregating infectious, hazardous, and non-infectious waste.	40 minutes
Session 9: Monitoring and sustainability of IPC in healthcare facilities	Group activity to develop a monitoring checklist for cleaning and waste disposal, discussion on the importance of monitoring and sustainability of IPC protocols.	30 minutes
Conclusion & wrap-up	Summary of key learning points, participant feedback, Q&A, and formal closing.	15 minutes

General guidelines for trainers/facilitators – sanitary workers' training module

To effectively deliver a training session for sanitary workers, trainers should begin by clearly outlining the session objectives, ensuring that participants understand the role of Infection Prevention and Control (IPC) in maintaining a clean and safe healthcare environment. The training should be structured with a clear agenda, covering key topics such as sanitation practices, environmental cleaning, waste disposal, and personal hygiene. Trainers are encouraged to use simple, accessible language and practical examples that reflect the daily realities of sanitary workers' roles.

To keep the session engaging, trainers should begin with an icebreaker or a discussion that connects the training content to real-life challenges faced by sanitary workers in healthcare facilities. Active participation should be encouraged through group activities, Q&A sessions, and hands-on cleaning demonstrations.. All training materials, including handouts, cleaning tools, and visual aids, should be organised in advance and made easily accessible. Each concept should be introduced, explained clearly, and demonstrated through practical application, so that participants leave with the knowledge, skills, and confidence to apply IPC measures effectively in their day-to-day work.

Guidelines for conducting the training

a) Introduction of training objectives

- Begin by explaining the purpose of the training and how proper sanitation and cleaning practices help prevent infections in healthcare settings.
- Emphasise the important role sanitary workers play in keeping hospitals and clinics safe for patients, staff, and visitors.

b) Simple and practical approach

- Use easy-to-understand language with step-by-step explanations.
- Demonstrate cleaning techniques using real tools and materials commonly used in healthcare facilities.

c) Relating to daily work

- Encourage sanitary workers to share their experiences and challenges in maintaining cleanliness.
- Provide real-life examples of how poor cleaning practices can lead to infections.

d) Interactive training methods

- Use role-playing and hands-on demonstrations to teach proper cleaning, disinfection, and waste disposal techniques.
- Allow participants to practise cleaning methods under the trainer's supervision.

e) Encouraging participation

- Make the session engaging by asking questions and encouraging discussions.
- Address concerns and clarify doubts to ensure that participants fully understand IPC principles.

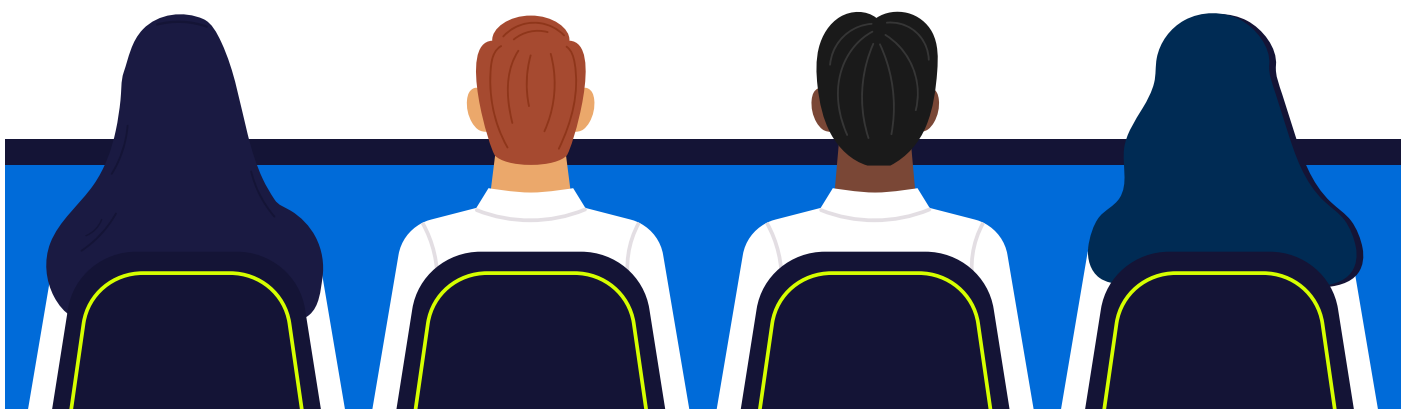
f) Providing practical takeaways

- Give sanitary workers printed guidelines, checklists, or pictorial charts to use in their daily cleaning routines.
- Reinforce the importance of consistency in following proper sanitation procedures.

g) Follow-up and reinforcement

- Encourage workers to apply what they've learnt and share their experiences in follow-up sessions.
- Provide ongoing support by answering questions and conducting refresher training if needed.

By following these guidelines, trainers can ensure that sanitary workers gain the necessary skills and confidence to maintain high standards of cleanliness in healthcare settings, ultimately contributing to a safer and healthier environment for all.



Session 1:

Introduction and expectations

To effectively conduct a training session for sanitary workers at healthcare facilities, trainers should begin by clearly introducing the session objectives, ensuring participants understand how their role directly impacts infection prevention and control (IPC). Establish a structured agenda that outlines the sequence of topics and activities, including interactive discussions, hands-on demonstrations, and practical exercises focused on maintaining cleanliness and hygiene in healthcare settings.

- Prepare and organise all necessary training materials, such as cleaning equipment, PPE samples, visual aids, and handouts, to ensure a smooth and effective learning experience.
- Frame the module as a standalone resource by thoroughly introducing, explaining, and practising each concept in a way that is easy for participants to grasp and apply in their daily work.

Session structure and key activities

a) Introduction and icebreaker (10 minutes)

Begin with an engaging activity to create a welcoming atmosphere and relate the training content to real-life work experiences, emphasising the critical role of sanitary workers in preventing infections.

- Welcome participants and introduce the importance of their role in maintaining a clean and safe healthcare environment.
- Conduct an icebreaker, such as “One Thing I Do to Keep My Workplace Clean,” to encourage active participation and build confidence.
- Outline the session objectives:
 - Introduce the key responsibilities of sanitary workers in IPC.
 - Promote the importance of cleanliness in preventing healthcare-associated infections (HAIs).
 - Encourage teamwork and commitment to best practices in sanitation and hygiene.



b) Establishing norms and expectations (5 minutes)

Encourage a collaborative and interactive learning experience by setting clear expectations and participation guidelines.

- Work with participants to establish basic ground rules, such as punctuality, teamwork, respect for one another, and active participation.
- Discuss common challenges sanitary workers face in maintaining cleanliness and how to overcome them.
- Highlight the importance of their role in protecting themselves, patients, and healthcare staff from infections.

c) Pre-test administration

The session will conclude with a brief reflection, followed by a pre-test to assess participants' initial understanding of IPC principles, proper cleaning techniques, and waste management. The results will help trainers tailor the session to address specific gaps and measure progress throughout the training.

By the end of the session, sanitary workers should feel more confident in their role as key contributors to infection prevention, ensuring a safer and healthier environment for patients, staff, and visitors.

Session 2:

Facilitation skills for sanitary workers

Session objectives

- Understand the fundamental principles of effective facilitation in training sanitary workers.
- Learn techniques to engage and motivate participants through clear communication and interactive learning.
- Develop skills to create an inclusive and conducive learning environment that encourages active participation.
- Master strategies for guiding discussions, managing group dynamics, and addressing challenges during training.
- Gain the ability to assess participant understanding and adapt training approaches accordingly.

2.1. Importance of good facilitation skills in training sanitary workers

Effective facilitation is critical when training sanitary workers on Infection Prevention and Control (IPC) in healthcare facilities. Sanitary workers play a crucial role in maintaining cleanliness, hygiene, and environmental safety, directly impacting infection prevention and patient care quality. Their responsibilities include proper cleaning, disinfection, and waste management, which help reduce the spread of infections in hospitals and clinics.

This session aims to equip trainers with the facilitation skills needed to educate sanitary workers effectively. By using clear communication, interactive learning, and hands-on demonstrations, trainers can ensure that sanitary workers understand and apply IPC protocols in their daily routines.

2.2. Session structure (20 minutes)

a) Introduction and icebreaker (10 minutes)

Welcome participants and create a friendly atmosphere with an engaging icebreaker, such as “One Cleaning Practice I Am Proud Of.”

Outline session objectives

- Introduce facilitation skills for IPC training.



- Encourage an interactive and engaging learning experience.
- Establish ground rules for respectful participation and collaboration.

b) Overview of core facilitation skills (10 minutes)

Clear communication

- Simplify IPC concepts using relatable examples (e.g., comparing proper waste disposal to home cleanliness).
- Avoid technical jargon and break down cleaning protocols into simple, actionable steps.

Active listening

- Use verbal and non-verbal cues to show attentiveness and encourage participation.
- Address participants' specific concerns or experiences to enhance relevance.

Adaptability

Adjust explanations based on participants' literacy and understanding levels.

Use practical demonstrations to reinforce concepts when needed.

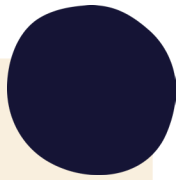
Maintaining focus

- Keep discussions aligned with key IPC objectives.
- Manage time effectively to ensure all topics are covered.

Interpersonal skills

- Foster a supportive learning environment where all participants feel valued.
- Encourage teamwork and collaboration to improve workplace hygiene practices.





Role-play activity

Practical application and reflection (10 minutes)

- Conduct a role-play activity where sanitary workers practice explaining or demonstrating a basic IPC task, such as proper hand hygiene or safe waste disposal.
- Provide constructive feedback from trainers and peers to reinforce good facilitation techniques.
- Encourage participants to reflect on how they can share IPC knowledge with colleagues and apply it in their daily routines.

By the end of this session, sanitary workers will have foundational facilitation skills to better understand and apply IPC practices, ultimately contributing to a cleaner and safer healthcare environment.

Session 3:

Importance of proper sanitation and environmental cleaning in healthcare settings

Sanitation and environmental cleaning are the foundation of Infection Prevention and Control (IPC) in healthcare settings. Sanitary workers play a vital role in maintaining cleanliness and hygiene, which directly impacts the safety of patients, healthcare staff, and visitors. Effective sanitation and environmental cleaning help prevent Healthcare-Associated Infections (HAIs), which occur when harmful germs spread due to unclean surfaces, contaminated equipment, and improper waste disposal.

This session will emphasise the significance of proper sanitation and environmental cleaning, helping sanitary workers understand how their work contributes to infection prevention and public health. By following proper cleaning protocols, sanitary workers not only protect themselves but also create a safe and hygienic environment for everyone in the healthcare facility.

3.1. Role of sanitation in preventing Healthcare-Associated Infections (HAIs)

HAIs occur when harmful microorganisms spread within a healthcare facility due to poor sanitation and hygiene practises. These infections can lead to severe health complications for patients, prolong hospital stays, and even increase the risk of mortality.

How infections spread in healthcare facilities

- **Contaminated surfaces and equipment:** Germs can survive on unclean surfaces, including patient beds, medical instruments, and door handles. Touching these surfaces and then touching one's face, food, or another person can spread infections.
- **Airborne transmission:** Dust and airborne particles from unclean environments can carry infectious agents, leading to respiratory infections.
- **Poor waste disposal:** Improper disposal of medical and general waste can expose healthcare workers and patients to harmful bacteria and viruses.
- **Lack of hand hygiene:** If healthcare workers and patients do not follow proper hand hygiene after touching contaminated surfaces, infections can spread quickly.

Sanitary workers play a critical role in breaking these chains of infection by ensuring proper cleaning, disinfection, and waste management. Regular and thorough sanitation disrupts the transmission pathways, reducing the risk of HAIs.

3.2. Impact of effective cleaning on health outcomes

Proper sanitation and environmental cleaning have a direct impact on infection prevention and overall health outcomes. By implementing and maintaining high cleaning standards, healthcare facilities can significantly reduce the spread of infectious diseases.

Key benefits of effective cleaning practices

- **Reduces microbial contamination:** Routine and deep cleaning help eliminate germs, particularly in high-risk areas such as operating theatres, labour wards, emergency rooms, and isolation units.
- **Prevents outbreaks:** Proper disinfection prevents the spread of deadly pathogens such as MRSA, C. difficile, and COVID-19, reducing the chances of hospital outbreaks.
- **Enhances patient recovery:** A clean and safe environment lowers the risk of complications, helping patients recover faster.
- **Protects healthcare workers and visitors:** Maintaining hygiene ensures that doctors, nurses, and visitors are not exposed to harmful infections, creating a safer workplace.

Case study example

A hospital that implemented strict environmental cleaning protocols saw a 30% reduction in post-surgical infections. This improvement not only saved lives but also reduced the burden on hospital resources and improved patient trust in healthcare services.



Session 4:

The role of sanitary workers in maintaining a clean and healthy Healthcare Facility (HCF) to prevent infections

Sanitary workers play a crucial role in maintaining a safe and hygienic healthcare environment. Their responsibilities go beyond general cleaning, as they are essential in preventing the spread of infections and ensuring the well-being of patients, healthcare workers, and visitors. Effective sanitation and infection prevention require a structured approach that includes routine cleaning, proper waste disposal, and adherence to hygiene protocols.

A key responsibility of sanitary workers is **environmental cleaning**. Regular and thorough cleaning of patient rooms, hallways, waiting areas, and high-touch surfaces (such as doorknobs, bedrails, and medical equipment) significantly reduces the risk of infections. Using appropriate disinfectants and following recommended cleaning procedures help eliminate harmful pathogens that may cause healthcare-associated infections (HAIs).

Another critical aspect of their role is **proper waste management**. Healthcare waste, including used bandages, syringes, and contaminated materials, must be disposed of safely to prevent the transmission of infections. Sanitary workers should be trained to segregate waste into different categories, such as infectious waste, sharps, and general waste, ensuring it is handled and disposed of according to healthcare facility guidelines.

Personal hygiene and use of Personal Protective Equipment (PPE) are equally important. Sanitary workers must practise hand hygiene by washing hands thoroughly before and after cleaning tasks. Wearing gloves, masks, aprons, and other protective gear minimises direct exposure to infectious materials and ensures their safety while performing cleaning duties.

To ensure a consistently clean environment, sanitary workers should follow a **routine cleaning schedule**, prioritising areas with high patient traffic and those at higher risk of contamination, such as operating rooms and isolation wards. They should also be prepared to respond promptly to spills and contamination incidents to prevent the spread of infections.

Continuous training and awareness are essential for improving their effectiveness. Regular training sessions on updated cleaning protocols, correct use of disinfectants, and waste management procedures help enhance their skills and knowledge. Additionally, supervisors should provide ongoing support and monitoring to maintain high standards of cleanliness.

By diligently following infection prevention protocols, sanitary workers contribute significantly to reducing the spread of infections in healthcare facilities. Their role is vital in creating a safe, hygienic environment where patients receive care without unnecessary exposure to infections, ultimately improving overall healthcare outcomes.

Session 5:

Hand hygiene for sanitary workers in healthcare facilities

5.1. Importance of hand hygiene in infection prevention (20 minutes)

This session will help trainers educate sanitary workers on the importance of proper hand hygiene in healthcare settings. The training will emphasise how hand hygiene is a simple yet powerful way to prevent infections and maintain a safe environment for patients, staff, and visitors.

a) Introduction: Setting the context (5 minutes)

Begin by welcoming participants and explaining why hand hygiene is critical in healthcare facilities. Discuss:

Why hand hygiene matters

Emphasise its role in preventing infections among healthcare workers, patients, and visitors.

Key risks

Explain how improper hand hygiene can spread harmful germs from contaminated surfaces, waste, and patient areas.

When to clean hands

Introduce key moments when sanitary workers should perform hand hygiene, based on their tasks and exposure risks:

- Before and after cleaning patient rooms or common areas.
- Before and after handling medical or general waste.
- After using cleaning tools, mops, or handling soiled laundry.
- After removing gloves.
- Before eating, drinking, or touching personal items.

Reinforce that maintaining clean hands is one of the most effective ways to reduce healthcare-associated infections (HAIs) and protect both workers and patients.

b) Step-by-step handwashing technique (10 minutes)

Provide a live demonstration of proper handwashing techniques using soap and water. Encourage participants to practise each step as they follow along.

Wet hands thoroughly with water

Explain that wetting hands ensures soap spreads evenly for effective cleaning.



Apply soap and rub palms together



- Show how to use a small amount of soap and create a good lather.
- Highlight that soap helps break down dirt, grease, and germs.

Rub the back of each hand and between fingers

- Demonstrate interlacing fingers to clean between them thoroughly.
- Point out that these areas are commonly missed.



Focus on thumbs and fingertips



- Show how to encircle thumbs with the opposite hand and clean fingertips by rubbing them on the opposite palm.
- Stress that fingertips touch surfaces frequently and need extra attention.

Rinse thoroughly with running water

Explain that leaving soap residue can cause irritation and isn't hygienic.



Dry hands with a tissue or an air dryer

Emphasise that completely dry hands prevent bacterial growth and maintain cleanliness.

c) Hand hygiene with alcohol-based sanitisers (5 minutes)

- Explain when hand sanitisers should be used instead of soap and water, such as when hands are not visibly dirty but need quick disinfection.
- Demonstrate the correct use of alcohol-based hand rubs by rubbing hands together for at least 20 seconds until dry.

Activity

Demonstrate step-by-step handwashing and alcohol-based hand rub techniques using visual aids. Trainer will facilitate group practice with feedback on participants' techniques.

d) Conclusion and key takeaways (5 minutes)

- Reinforce that hand hygiene is a personal responsibility that protects everyone in the healthcare facility.
- Encourage sanitary workers to be role models by practising proper hand hygiene and reminding others to do the same.
- Allow time for questions and clarify any concerns regarding hand hygiene in their daily tasks.

By the end of this session, sanitary workers should understand the importance of hand hygiene, know when to clean their hands, and be able to perform proper handwashing and sanitising techniques effectively.

Session 6:

Proper use of PPE for sanitary workers

(15 minutes)

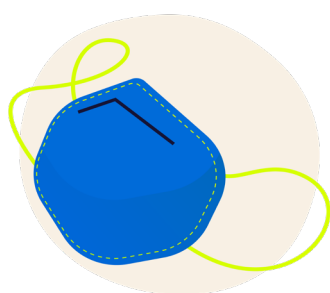
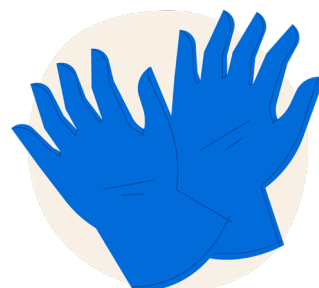
6.1. Importance of PPE in healthcare facilities

Personal Protective Equipment (PPE) is essential for sanitary workers to protect themselves from harmful germs and prevent the spread of infections in healthcare facilities. Since sanitary workers handle waste, clean contaminated surfaces, and work in high-risk areas, proper use of PPE minimises exposure to infectious materials and ensures a safe environment for patients, staff, and visitors. The type of PPE required depends on the task, ranging from gloves and masks for routine cleaning to full gowns and eye protection in high-risk areas like isolation wards.

a) Correct use of PPE

Gloves

- Wear gloves when handling waste, cleaning patient areas, or using disinfectants.
- Change gloves between tasks and after touching contaminated surfaces.
- Remove gloves properly by peeling them inside out and discard them in a designated waste bin.



Masks

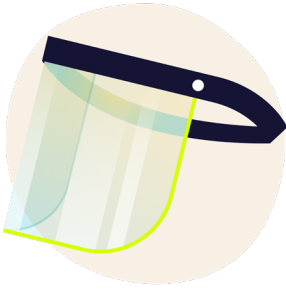
- Wear a mask when cleaning areas with high contamination risks, such as patient rooms, restrooms, and waste disposal zones.
- Ensure the mask covers both the nose and mouth properly.
- Avoid touching the mask while wearing it, and dispose of it correctly after use.

Gowns and aprons

- Use gowns or aprons when cleaning areas exposed to bodily fluids or hazardous waste.
- Remove them carefully by rolling inside out to avoid contact with contaminated surfaces.



- Dispose of used gowns in designated waste bins.



Eye protection (goggles or face shields)

- Wear goggles or face shields when handling chemicals, disinfectants, or cleaning areas where splashes may occur.
- Clean and disinfect reusable goggles properly after use.

b) How to put on and remove PPE

- **Before wearing PPE:** Wash or sanitise hands thoroughly.
- **While using PPE:** Avoid touching the face, adjusting PPE unnecessarily, or reusing disposable items.
- **Removing PPE:** Take off each item carefully, starting with gloves, then gowns, masks, and eye protection, avoiding contact with contaminated surfaces.
- **Disposal:** Always dispose of used PPE in designated waste bins and wash hands immediately.

c) Conclusion and key takeaways

By following proper PPE guidelines, sanitary workers can protect themselves and others from infections, maintain cleanliness in healthcare facilities, and contribute to a safer environment for all. Proper PPE use is a crucial part of infection prevention and must be followed consistently to ensure personal and public health safety.

Session 7:

Disinfection techniques

Effective cleaning and disinfection are essential in maintaining a safe and hygienic healthcare environment. Sanitary workers play a critical role in preventing the spread of infections by ensuring that all areas, especially high-risk zones like patient rooms, restrooms, and medical equipment, are properly cleaned and disinfected. Without proper sanitation, harmful germs can survive on surfaces and contribute to the spread of diseases, putting patients, healthcare staff, and visitors at risk. This session will provide an understanding of the importance of disinfection, the correct use of cleaning agents, and best practices to ensure a clean and infection-free healthcare facility.



7.1. Disinfection techniques

This session emphasises the correct procedures for cleaning and disinfecting healthcare environments, particularly high-touch surfaces and high-risk areas. Sanitary workers will gain a clear understanding of safe and effective use of cleaning agents, including the importance of proper dilution, application, and contact times to achieve optimal disinfection. Trainers will focus on adapting these techniques to local healthcare settings, addressing common constraints like limited resources or varying disinfection protocols.

a) Proper techniques for cleaning and disinfecting high-touch surfaces

Definition of high-touch surfaces

Explain that high-touch surfaces, such as bedrails, doorknobs, light switches, and medical equipment, are frequently contacted and prone to contamination.

Step-by-step cleaning process

- Remove visible dirt or organic material (e.g., blood, body fluids) using detergent and water.
- Use a clean cloth or mop to apply the cleaning agent to the surface.
- Apply disinfectant as per guidelines and allow it to remain wet for the required contact time (e.g., 10 minutes for sodium hypochlorite).
- Wipe the surface dry if required or allow it to air dry.

Frequency of cleaning

Discuss the need for routine cleaning (e.g., every shift) and immediate cleaning after contamination (e.g., spills, patient discharge).

b) Safe use of cleaning agents and disinfectants

Types of disinfectants

- Sodium hypochlorite (bleach) for general disinfection (e.g., 0.5% solution for blood spills).
- Alcohol-based solutions for small, non-porous surfaces.
- Quaternary ammonium compounds for routine cleaning of floors and walls.

Dilution guidelines

- Train workers on how to dilute concentrated solutions. For example, 1:10 dilution of bleach means mixing one part bleach with nine parts water.
- Use colour-coded charts or visual aids for clarity.

Precautions

- Always wear gloves and masks while handling disinfectants.
- Ensure proper ventilation when using strong chemicals.
- Store cleaning agents away from patients and food preparation areas.

c) Special considerations for high-risk areas

Operating rooms and delivery suites

- Clean and disinfect surfaces before and after every procedure.
- Focus on high-contact equipment like surgical tables, monitors, and lamps.
- Use disposable cleaning materials where possible to reduce contamination risks.

Isolation wards

- Follow strict disinfection protocols to prevent the spread of infections.
- Disinfect floors, walls, and reusable patient-care equipment daily.
- Dispose of cleaning materials used in these areas as infectious waste.

Emergency procedures for spills

- Cover blood or body fluid spills with paper towels soaked in disinfectant.
- Clean from the outer edge of the spill toward the centre to avoid spreading contamination.



Abdul Ghafoor, 50, burning medical waste in the incinerator constructed by WaterAid at Rural Health Center 53/M in the District Lodhran, Punjab Province, Pakistan. March 2024

Session 8:

Waste segregation and disposal

This session equips sanitary workers with the knowledge and skills to manage healthcare waste responsibly. Participants will learn to distinguish between types of waste, use appropriate disposal methods, and prevent environmental contamination and personal injury. Emphasis is placed on practical techniques, adherence to protocols, and fostering a sense of accountability in creating safe healthcare environments.

Let us take a look at the steps of the waste management process. These next several learning activities will cover the steps in the waste management process in more detail. We will start by looking at how to minimise waste.

8.1. Importance of waste segregation and disposal

Proper waste segregation and disposal are crucial for maintaining a safe and hygienic healthcare environment. Sanitary workers play a key role in preventing infections by ensuring that different types of waste are disposed of correctly, reducing the risk of disease transmission. Incorrect handling of medical waste, such as contaminated materials or sharps, can expose workers, patients, and the community to serious health hazards. By following colour-coded waste disposal guidelines, sanitary workers help in minimising environmental pollution, ensuring compliance with healthcare regulations, and protecting themselves and others from potential infections and injuries.

a) Principles of waste segregation

Categories of waste

- **Infectious waste:** Items contaminated with blood, body fluids, or other infectious materials, such as bandages, swabs, and gloves.
- **Hazardous waste:** Includes sharps (needles, scalpels), chemicals, and expired medications.
- **Non-infectious waste:** Regular trash like paper, food scraps, or packaging material.

Colour-coded bin system

- **Yellow bins:** For infectious waste, including soiled materials and gloves.
- **Red bins/sharps containers:** For needles, blades, and other sharps.
- **Black/blue bins:** For non-hazardous, general waste.

Importance of segregation

- Prevents cross-contamination and injury.



- Ensures compliance with healthcare waste management guidelines.

b) Safe handling, transportation, and disposal

Handling waste

- Always wear gloves and masks when handling waste.
- Avoid overfilling bins to prevent spillage and injury.

Transportation

- Use trolleys or carts specifically designated for waste transport.
- Cover waste during transport to prevent exposure.

Disposal methods

- **Infectious waste:** Incineration or autoclaving to destroy pathogens.
- **Sharps:** Securely store in puncture-resistant containers and incinerate or shred.
- **Non-infectious waste:** Dispose of in municipal waste systems.

c) Preventing environmental contamination and personal injury

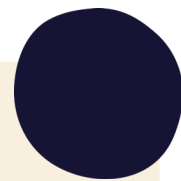
Environmental risks

- Improper disposal can lead to contamination of soil, water, and air.
- Risks to community health from scavenging and waste mismanagement.

Personal safety

- Use PPE consistently and inspect for damage before use.
- Never attempt to retrieve items from sharps containers.
- Immediately report any waste-related injuries, such as needle-stick incidents.





Activity: Role-play on waste segregation and disposal

Objective

Reinforce correct waste management practices through practical application.

Steps for trainers

Setup

- Create a mock healthcare setting with labelled bins, sharps containers, and various types of simulated waste (e.g., fake needles, gloves, papers).
- Provide participants with gloves, aprons, and masks for protection.

Role-play

- Assign participants to tasks: sorting, transporting, and disposing of waste. Have them segregate items into the correct bins based on type (e.g., gloves into yellow, needles into red).
- Simulate transporting waste safely to a designated disposal area.

Evaluation

- Observe participants' handling and provide real-time feedback.
- Discuss mistakes and reinforce correct methods to improve understanding.

Debrief

- Highlight common challenges sanitary workers may face, such as limited bins or mixing of waste by others.
- Brainstorm solutions as a group, encouraging participants to share their experiences.

8.2. Environmental surfaces and medical equipment

Environmental cleaning involves two main types of surfaces

Environmental surfaces: Frequently touched items like doorknobs, bed rails, tabletops, floors, and walls.

Medical equipment: Items involved in patient care, like reusable medical equipment, monitors, IV pumps, and blood pressure machines.

Patients and healthcare personnel touch surfaces more than others, engaging in a higher risk of transmission. These are called “high-touch,” or frequently touched, surfaces. Frequently touched surfaces include walls, floors, doorknobs, light switches, bed rails, ends of beds, patient charts, monitor buttons, IV pumps, and poles, faucet handles and toilet seats, and push buttons. The images below are examples of these surfaces—the red dots indicate the areas often touched by health care workers (HCW) or patient hands.

The basic principles of cleaning and disinfecting apply to all patient care areas

- Always move from the cleanest area to the dirtiest area-clean from high areas to low areas, outer to inner.
- Damp dusting and wet mopping is recommended to minimise dust .
- Use a 3-bucket system for cleaning and disinfection.
- Water for cleaning should be clean water.
- Spraying of disinfectants is not recommended.



Important for sanitary workers

- Wear PPE according to the risk when handling used or soiled linen.
- Handle soiled linen with minimum agitation to avoid contamination.
- Place soiled linen into bags/containers at the point of care.
- If linen is grossly soiled:
 - Remove gross soil (e.g. faeces, vomit) with a gloved hand and using a flat, firm object.
 - Discard solid material into the flush toilet and dispose of the towel into the waste.
 - Place soiled linen into a clearly labelled, leak-proof container (e.g., bag and closed bin) in the patient care area.
- Clean linen must be sorted and transported in a way to prevent contamination (i.e. closed bins).
- Linen on the patient care wards should be stored in a designated area (i.e. a closet or room) or closed containers away from public access.

Tips for trainers

- Use simple language and local examples to explain the categories of waste.
- Demonstrate segregation and disposal techniques before participants attempt the activity.
- Stress the importance of using PPE consistently to protect against contamination and injury.
- Reinforce how proper waste management contributes to safer healthcare environments and community health.
- Praise participants for their efforts, fostering pride in their critical role in infection prevention.

Session 9:

Monitoring and sustainability of IPC in healthcare facilities (20 minutes)

Session objectives

By the end of this session, participants will:

- Understand effective strategies for monitoring cleanliness and hygiene in healthcare facilities.
- Identify key areas for infection prevention, such as patient rooms, toilets, common areas, hand hygiene stations, and waste disposal sites.
- Learn how to use monitoring tools, such as checklists, to ensure proper cleaning and waste management practices.
- Recognise common challenges in maintaining hygiene standards and propose Practical solutions to improve IPC compliance.

a) Importance of IPC monitoring in healthcare facilities (5 minutes)

Monitoring Infection Prevention and Control (IPC) practises is essential to maintaining a clean and safe healthcare environment. Sanitary workers play a crucial role in ensuring that cleaning protocols are consistently followed to prevent infections among patients, healthcare staff, and visitors. Regular monitoring helps identify areas for improvement, reinforces best practises, and ensures compliance with IPC guidelines. By actively participating in IPC monitoring, sanitary workers contribute to a healthier environment and reduce the risk of healthcare-associated infections (HAIs).

b) Strategies for monitoring IPC (5 minutes)

Key monitoring methods

- **Observation-based monitoring:** Supervisors or designated staff observe cleaning procedures, waste management, and facility hygiene to ensure IPC protocols are followed.
- **Checklist-based monitoring:** Use structured tools to assess the effectiveness of cleaning practices, hand hygiene, and waste disposal.

Trainer instructions

- Provide real-life examples of when each method is most effective (e.g., observation during peak hours to assess cleaning frequency).

- Explain how combining methods ensures a more thorough assessment.

c) IPC in key areas (5 minutes)

Focus areas

- **Patient rooms and wards:** Proper surface cleaning, waste disposal, and hand hygiene compliance.
- **Toilets and common areas:** Frequent sanitation of high-touch surfaces to prevent germ spread.
- **Medical waste disposal:** Correct segregation and disposal of infectious and non-infectious waste.
- **Storage and handling of cleaning supplies:** Proper use of disinfectants and safe storage practices.

Trainer instructions

- Use practical examples to highlight risks in each area and demonstrate solutions.
- Emphasise measurable indicators, such as cleaning schedules and waste disposal frequency.

d) Challenges in monitoring and practical solutions (5 minutes)

Common barriers

- **Limited resources:** Shortage of cleaning agents, PPE, or waste bins.
- **Resistance to change:** Some staff may not follow IPC protocols consistently.
- **Lack of clear guidelines:** Unclear instructions on waste segregation or disinfectant use.

Proposed solutions

- Advocate for necessary supplies and Prioritise essential IPC practices.
- Communicate the importance of IPC and encourage teamwork in maintaining hygiene standards.
- Simplify protocols by using clear visual aids and checklists for easy reference.

e) Activity: Using an IPC monitoring checklist (5 minutes)

- **Present a sample IPC checklist** covering key hygiene practices (e.g., hand hygiene, PPE use, environmental cleanliness, and waste segregation).
- Explain checklist components, including:
 - **Item description:** Specific tasks or conditions to monitor.
 - **Frequency:** How often should monitoring be done?
 - **Compliance levels:** Options such as yes/no or partially compliant.
- **Demonstrate how to use the checklist** during a routine cleaning assessment, focusing on accuracy and thoroughness.

Outcome

Sanitary workers leave with a practical monitoring checklist, empowering them to maintain and sustain IPC standards in their healthcare facilities.

***See page 209 for the “IPC monitoring for sanitary workers” checklist.**

9.1. Sustainability of IPC practices for sanitary workers

Importance of IPC sustainability

Maintaining proper cleaning and hygiene practices is essential for preventing infections and ensuring a safe healthcare environment for patients, staff, and visitors. If sanitation measures are not sustained, harmful germs can spread, increasing the risk of infections and making healthcare facilities unsafe.

Challenges in sustaining IPC

- **Limited supplies & resources:** Shortages of cleaning agents, disinfectants, gloves, and protective gear.
- **Lack of awareness & motivation:** Some workers may not fully understand the importance of IPC or may feel overworked.
- **Inconsistent supervision:** Weak follow-up on cleaning schedules and hygiene standards.

Steps to ensure IPC sustainability

- **Make cleaning a daily habit:** Ensure sanitation tasks are consistently followed as part of routine work.
- **Regular training & skill development:** Conduct refresher sessions on cleaning techniques, waste management, and personal hygiene.

- **Clear roles & accountability:** Assign team leads to oversee cleaning duties and ensure compliance.
- **Regular monitoring & feedback:** Use checklists and supervisor reviews to assess sanitation quality and identify areas for improvement.
- **Support from management & policies:** Advocate for continuous access to cleaning supplies, PPE, and structured guidelines to maintain hygiene standards.

By consistently following these steps, sanitary workers play a crucial role in keeping healthcare facilities safe and infection-free.

*IPC monitoring for sanitary workers checklist

Monitoring Criteria	Category	Compliant (Yes/No)	Remarks
Ensured handwashing before and after cleaning the facility/ room.	Hand Hygiene		
Is water, soap and/or alcohol based hand rub/hand sanitiser available in the facility?	Hand Hygiene		
Wore gloves, masks, aprons, and shoes while cleaning.	Personal protection		
Used designated brooms, mops, buckets, etc. for cleaning, and washed and dried them after each use.	Personal protection		
Cleaned the floor with a disinfectant solution at least twice a day.	Proper cleaning		
Regularly cleaned high-touch surfaces (door handles, taps, buttons).	Proper cleaning		
Cleaned toilets, commodes, and drains daily with a disinfectant solution.	Proper cleaning		
Separated general waste and infectious waste.	Waste segregation and disposal		
Placed infectious waste in sealed bags and safely incinerated or buried it at the designated site.	Waste segregation and disposal		
Signed and recorded the time on the log sheet after each cleaning.	Signing daily cleaning checklist		

Conclusion of module 6

The session highlights the vital role sanitation and waste management play in preventing infections in healthcare settings. By implementing these practices, you contribute to safer environments and improved patient outcomes. Let's commit to maintaining these standards in our daily work.

**Roll-out strategy
for all modules -
Mock practice / exercise
for trainers**

Module 7



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Abbreviations

- **ABHR:** Alcohol-Based Hand Rub
- **BHUs:** Basic Health Units
- **CMWs:** Community Midwives
- **HAIs:** Healthcare-Associated Infections
- **IPC:** Infection Prevention and Control
- **PPE:** Personal Protective Equipment
- **PHC:** Primary Healthcare
- **UV:** Ultraviolet
- **WHO:** World Health Organization

Introduction

The purpose of this module is to consolidate the learning of all previous modules by engaging participants in mock exercises. Master trainers will guide participants through simulated sessions, ensuring practical understanding and application of Infection Prevention and Control (IPC) principles. This strategy outlines how to organise and conduct the mock practice effectively, focusing on active participation and constructive feedback.

Learning objectives

By the end of this module, participants will be able to:

- Demonstrate the ability to effectively deliver IPC training sessions using the modules tailored for various healthcare cadres.
- Apply facilitation skills, including content delivery, activity management, and participant engagement, in a simulated training environment.
- Identify and address common challenges faced during IPC training through hands-on practice and peer feedback.
- Enhance teamwork and collaborative learning by participating in group-led mock training exercises.
- Reflect on feedback from master trainers and peers to refine facilitation techniques and ensure the effective transfer of knowledge to healthcare workers.



1.1 Pre-mock practice preparation

This phase involves ensuring trainers are fully equipped and confident to conduct their sessions. It includes reviewing the module content, practising delivery techniques, and organising all necessary materials and tools to simulate a real training environment effectively.

Demonstrations by master trainers

Important: Familiarise participants with the structure, content, and facilitation techniques for each module.

Key steps

- Each master trainer will conduct a full demonstration of one session from the assigned modules.
- Demonstrations should include all elements: content delivery, activities, role-play, and group discussions.

- Encourage active participation and Q&A during these demonstrations to enhance understanding.

Roll-out

Divide participants into small groups based on cadres (e.g., public health technicians, EPI technicians, sanitary workers).

- Assign each group a specific module to prepare for the mock practice session.
- Provide clear instructions, training materials, and sufficient preparation time.

Preparation guidelines for participants

- Participants should review the module content, prepare teaching aids, and plan activities.
- Groups should assign roles (e.g., facilitator, demonstrator) for their mock session.
- Master trainers should be available for guidance and rehearsal support.

1.2. Mock practice execution (last day)

During this phase, trainers conduct their assigned sessions as simulated training exercises, adhering to the module structure and facilitation guidelines. Participants engage actively, simulating real-life scenarios to reinforce learning and ensure trainers apply effective teaching and practical demonstration techniques.

Structured mock sessions

- Each group will conduct their assigned module as a mock training session, simulating the real environment.
- Allocate a fixed time for each session, including setup, delivery, and feedback (e.g., 20-30 minutes per session).
- Ensure the mock practice covers all modules to reinforce comprehensive learning.

Key elements of mock sessions

- Deliver the content clearly, ensuring it aligns with the session objectives.
- Conduct activities and demonstrations effectively, involving all participants.
- Facilitate discussions, encouraging interaction and addressing queries.

Observation and feedback

- Master trainers will observe each mock session using a structured checklist to evaluate:
 - Content accuracy.
 - Delivery style and engagement techniques.
 - Effectiveness of activities and demonstrations.
- Provide immediate, constructive feedback after each session, highlighting strengths and areas for improvement.

1.3. Post-mock practice wrap-up

Group reflection and debrief

- Conduct a plenary discussion where participants share their experiences, challenges, and learnings from the mock sessions.
- Emphasise the importance of adaptability, teamwork, and confidence in facilitating IPC training.

Final review by master trainers

- Summarise key takeaways from the mock practice.
- Reinforce critical IPC concepts and their application across different healthcare cadres.

Certification and closing

Acknowledge participants' efforts and distribute completion certificates to reinforce their role as IPC facilitators in their respective settings.

Trainer's notes for mock practice

- Create a supportive, non-judgmental environment to encourage participation.
- Use observation checklists to provide objective and constructive feedback.
- Focus on building participants' confidence and highlighting their progress.
- Encourage peer feedback during debriefs to foster collaborative learning.
- Highlight the importance of continuous improvement in IPC facilitation skills.

